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October, 1878.

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THE
SAINT LOUIS
Medical and Surgical
JOURNAL.

THOS. F. RUMBOLD, M. D.,

EDITOR AND PROPRIETOR.

HIRAM CHRISTOPHER, M. D.,

ASSOCIATE EDITOR.

ESTABLISHED 1843.

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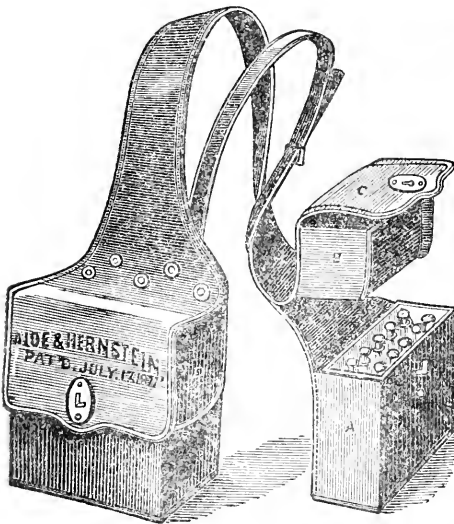
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T. GAILLARD THOMAS, M.D., Professor of Obstetrics and the Diseases of Women and Children.
JOHN T. METCALF, M.D., Emeritus Professor of Clinical Medicine.
HENRY B. SANDS, M.D., Professor of Anatomy.
JAMES W. McLANE, M.D., Adjunct Professor of Obstetrics and the Diseases of Women and Children.
THOMAS T. SABINE, M.D., Adjunct Professor of Anatomy.
CHARLES F. CHANDLER, Ph.D., Professor of Chemistry and Medical Jurisprudence.
EDWARD CURTIS, M.D., Professor of Materia Medica and Therapeutics.

FRANCIS BLAIFIELD, M.D., Adjunct Professor of Pathology and Practical Medicine.
JOHN C. CHAMBERS, M.D., Adjunct Professor of Physiology and Hygiene; Secretary of the Faculty.
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WILLIAM H. PRATER, M.D., Clinical Professor of all cases of the Skin.
CHARLES R. AGNEW, M.D., Clinical Professor of Diseases of the Eye and Ear.
ABRAHAM JACOBI, M.D., Clinical Professor of Diseases of Children.
FREDERICK N. OTIS, M.D., Clinical Professor of Venereal Diseases.
EDWARD C. SEXTON, M.D., Clinical Professor of Diseases of the Mind and Nervous System.
GEO. M. LEFFERTS, M.D., Clinical Professor of Laryngoscopy and Diseases of the Throat.
CHAS. MURPHY, M.D., Demonstrator of Anatomy.
CHAS. REESBY, M.D., Ass't Demonstrator of Anatomy.

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ROBERT F. WEIL, M.D., Lecturer on Diseases of the Genito-Urinary Organs.

MATTHEW D. MANN, M.D., Lecturer on Clinical Microscopy.
H. KNAPP, M.D., Lecturer on Diseases of the Eye and Ear.
T. A. McBRIDE, M.D., Lecturer on Symptomatology.

The COLLEGIATE YEAR embraces a special *Spring* and a regular *Winter Session*; attendance at the latter only being required for the graduating course. The *Spring Session* begins near the middle of March, and continues till June 1st. The *Regular Winter Session* for 1878-'79 begins October 1st, and continues till March.

TEACHING, by the following method:--

I. DIDACTIC LECTURES.--During the *Winter Session*, from five to six lectures are given daily by the Faculty. Attendance obligatory. During the *Spring Session*, two lectures are given daily by the Faculty of the *Spring Session*. Attendance optional.

II. CLINICAL TEACHING.--Ten clinics, covering all departments of medicine and surgery, are held weekly throughout the entire year in the College building. In addition, the Faculty give daily clinics at the larger City Hospitals and Dispensaries (such as the Bellevue, Charity, New York, and Roosevelt Hospitals, the New York Eye and Ear Infirmary, etc.) as a regular feature of the college curriculum. Attendance optional.

III. RECITATIONS are held daily throughout both Sessions. Attendance optional.

IV. PERSONAL INSTRUCTION.--Cases of *Obstetrics* are furnished without charge. Personal instruction is given in *Practical Anatomy*, *Operative Surgery*, *Minor Surgery*, *Physical Diagnosis*, *Ophthalmology*, *Otology*, and *Laryngoscopy*. Attendance optional, except upon *Practical Anatomy*.

EXPENSES.--The necessary expenses are a yearly matriculation fee, (\$5, good for a collegiate year), the fees for the lectures of the *Winter Session* (\$20 for the course on each branch, or \$140 for the entire curriculum), the *Practical Anatomy* fee (\$10 and a small charge for material), and a *Graduation Fee* of \$30. The graduating course requires three years' study, attendance upon two full winter courses of lectures, and upon one course of *Practical Anatomy*. Remissions and reductions of lecture fees are made to graduates and students who have already attended two full courses. All fees are payable in advance. Board can be had for from \$6 to \$9 a week, and the Clerk of the College will aid students in obtaining it.

For the Annual Catalogue and Announcement, or for further information, address JOHN G. CURTIS, M.D., Secretary of the Faculty, College of Physicians and Surgeons, corner of Twenty-Third Street and Fourth Avenue, New York.

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MEDICAL DEPARTMENT.

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THIRTY-EIGHTH SESSION--1878-'79.

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| STEPHEN SMITH, M. D., Professor of Orthopedic Surgery. | A. E. MACDONALD, M. D., Professor of Medical Jurisprudence. |
| J. W. S. GOULLEY, M. D., Professor of Diseases of the Genito-Urinary system. | JOSEPH W. HOWE, M. D., Clinical Professor of Surgery. |
| | LEWIS A. STIMSON, M. D., Professor of Pathological Anatomy. |

THE COLLEGIATE YEAR is divided into three Sessions—A Preliminary Session, a Regular Winter Session and a Spring Session.

THE PRELIMINARY SESSION will commence September 18, 1878, and will continue until the opening of the Regular Winter Session. It will be conducted on the plan of that Session.

THE REGULAR WINTER SESSION will commence on the Second of October, 1878, and end about the First of March, 1879.

The location of the new College edifice being immediately opposite the gate of Bellevue Hospital, and a few steps from the ferry to Charity Hospital, Blackwell's Island, the Students of the University Medical College are enabled to enjoy the advantages afforded by these hospitals with the least possible loss of time. The Professors of the Practical Chairs are connected with the Hospitals, and the University Students are admitted to *all the Clinics* given therein, *free of charge*.

In addition to the daily Hospital Clinics, there are eight Clinics each week in the College Building. Five Didactic Lectures will be given daily in the College Building, and Evening Recitations will be conducted by the Professors of Chemistry, Practice, Anatomy, Materia Medica, etc. Physiology, Surgery and Obstetrics, upon the subject of their lectures.

THE SPRING SESSION embraces a period of twelve weeks, beginning in the first week of March, and ending the last week of May. The daily Clinics, Recitations and Special Practical Courses will be the same as in the Winter Session, and there will be Lectures on Special Subjects by the members of the Post-Graduate Faculty.

THE DISSECTING ROOM is open throughout the entire Collegiate year; material is abundant, and it is furnished free of charge.

STUDENTS WHO HAVE STUDIED TWO YEARS and who have attended two courses of Lectures, may be admitted to examination in Chemistry, Anatomy, Physiology, and, if successful, will be examined at the expiration of their full course of study, on Practice, Materia Medica, Therapeutics, Surgery and Obstetrics; but those who prefer it may have all their examinations at the close of their full term.

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BELLEVUE HOSPITAL MEDICAL COLLEGE.

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SESSIONS OF 1878-'79.

THE COLLEGIATE YEAR in this Institution embraces a Preliminary Autumnal Term, the Regular Winter Session, and a Spring Session.

THE PRELIMINARY AUTUMNAL TERM for 1878-1879 will open on Wednesday, September 18, 1878, and continue until the opening of the Regular Session. During this term instruction, consisting of didactic lectures upon special subjects and daily clinical lectures, will be given, as heretofore, by the entire Faculty. Students expecting to attend the Regular Session are strongly recommended to attend the Preliminary Term, but attendance during the latter is not required. *During the Preliminary Term, clinical and didactic lectures will be given in precisely the same number and order as in the Regular Session.*

THE REGULAR SESSION will begin on Wednesday, October 2, 1878, and end about the 1st of March, 1879.

FACULTY.

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Emeritus Professor of Obstetrics and Diseases of Women, and President of the Faculty.
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Emeritus Professor of Surgery. FORDYCE BARKER, M. D.,
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J. LEWIS SMITH, M. D.,
Clinical Professor of Diseases of Children.

LEROY MILTON YALE, M. D.,
Lecturer Adjunct on Orthopedic Surgery.

A distinctive feature of the method of instruction in this College is the Union of clinical and didactic teaching. All the lectures are given within the Hospital grounds. During the Regular Winter Session, in addition to four didactic lectures on every week-day except Saturday, two or three hours are daily allotted to clinical instruction.

The Spring Session consists chiefly of Recitations from Text-books. This term continues from the first of March to the first of June. During this Session daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Regular clinics are also given in the Hospital and in the College Building.

FEES FOR THE REGULAR SESSION.

Fees for Tickets to all the lectures during the Preliminary } and Regular Term, including Clinical Lectures, }	\$140 00
Matriculation Fee	5 00
Demonstrator's Ticket (including material for dissection)	10 00
Graduation Fee	30 00

FEES FOR THE SPRING SESSION.

Matriculation (Ticket good for the following Winter)	\$5 00
Recitations, Clinics and Lectures	35 00
Dissection (Ticket good for the following Winter)	10 00

Students who have attended two full Winter courses of Lectures may be examined at the end of their second course upon Materia Medica, Physiology, Anatomy and Chemistry, and, if successful, they will be examined at the end of their third course upon Practice of Medicine, Surgery and Obstetrics only.

For the Annual Circular and Catalogue, giving regulations for graduation and other information, address Prof. AUSTIN FLINT, JR., Secretary Bellevue Hospital Medical College.

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As may be inferred from the nature and character of this remedy, it is neither a *tonic* nor a *secretory* preparation, but as there are several other preparations of similar character now being manufactured in Virginia, we would advise all who order, to mention the "Seven Springs Iron and Alum Mass," prepared by Landrum & Litchfield.

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— 1875.

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NOTE.The Editors hold themselves responsible for the Character of the Contributions, but not for the Opinions expressed in them.

Notice to Contributors and Correspondents.

Articles intended for publication in the next number should be forwarded one month prior to the date of publication. They must be contributed to this Journal exclusively.

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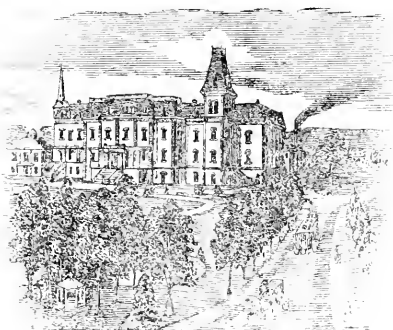
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Many of the most eminent physicians throughout the country, among whom are leading specialists in the treatment of Nervous diseases, assert that McKesson & Robbins' Phosphorus Pills are the most rational means of treating for exhibiting Phosphorus.

Many of these combinations were introduced by J. W. Kirby, of London, England.

Phosphorus, 1-100, 1-50, 1-30, 1-20, & 1-12 grs.
Phosphorus Compound, No. 1.
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Phosphorus, Iron, Quinine and Nux Vomica.
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Phosphorus, Morphia and Valerianate Zinc.
Phosphorus, Nux Vomica and Cantharides.
Phosphorus and Quinine.
Phosphorus, Quinine, Iron and Strychnine.
Phosphorus, Quinine and Nux Vomica.
Phosphorus and Strychnine.
Phosphorus, Sulphate Zinc and Lupulin.
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Phosphate Iron and Strychnine.

Small quantities of these Pills are now for sale in most of the cities of importance. In the U. S. and Canada, and to those living in remote places we will mail them in boxes of 100 and upon receipt of price.

Private formulas of 500 or over each, and coated to order.

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THE
SAINT LOUIS
MEDICAL AND SURGICAL
Journal.

VOL. XXXV—OCTOBER, 1878—No. 4.

Original Contributions.

ARTICLE XV.

THE REMOVAL OF MORBID GROWTHS FROM THE UTERUS. By W. S. ROSS, M. D., of Evansville, Ind.*

“Medical treatment has but little if any influence upon the progress and termination of tumors of the uterus.” I believe it is admitted by all authorities that the removal of morbid growths from the uterus is the only rational plan of treatment to be adopted for the relief of the patient.

“The danger to life is the repeated and exhausting hemorrhage, chronic menorrhagia, leucorrhœa, etc. The tumors themselves scarcely cause much trouble unless very large; then they may mechanically interfere very seriously with the functions of the body. Hence the necessity of their removal for the permanent relief of the patient.” I have met with and treated quite a number of cases in my practice; a few of the most interesting I will give an account of:

I was called to see Mrs. S—, 35 years of age; the mother of eight children; the youngest four years of age. I found the

* Read before the Evansville Medical Society.

patient very anæmic and almost prostrated from the loss of blood. She stated to me that she had "courses all the time; that the bleeding continued from one period until the next came around, and then she almost bled to death." I gave her stimulants and the ordinary remedies in such cases, but no permanent relief was secured from them. I determined to make a speculum examination, and, if possible, to ascertain the cause of the hemorrhage. On examination I discovered a small polypus about the size of a common red cherry. I was then satisfied that that was causing the hemorrhage. I was not prepared at that time with suitable instruments to remove the tumor. I informed my patient that I would call on the following day prepared, and I would remove the cause of all her trouble, which she readily assented to. I provided myself with a large speculum and a pair of uterine forceps, my object being to remove it by torsion; but to my great surprise, on making an examination, the polypus was not to be found, it having returned within the uterus. I made several unsuccessful efforts, at different times, to find it; but on making an examination during the severest period of hemorrhage it was forced down by the contractions of the uterus and brought within the os, and I at once seized it with my uterine forceps and twisted it off and brought it away. I applied a small sponge saturated with a solution of per chlor. iron to the os, and removed the speculum with instructions to let the sponge remain until the next morning, at which period all hemorrhage had ceased. The patient continued to improve and became pregnant within three months, and was delivered of a healthy child in course of due time, and remains a healthy woman to this day.

The second case was Mrs. T. B——, aged 45; has been suffering with hemorrhage from the uterus, at intervals, for the last two years. The hemorrhage at this period is so severe that the patient is almost exhausted from the loss of blood. A midwife who was present, and had been attending the patient, states that she (the patient) had had a miscarriage and that the loss of blood was from that cause." I ordered stimulants and the fl. ext. of ergot, but the hemorrhage continued. I at once applied the tampon which controlled the hemorrhage, but on removing the tampon I found the hemorrhage quite profuse. I ordered the vagina syringed out with cold water, and then with a solution of per sulph. iron, which had the desired effect, but it

was only temporary. I at once made speculum examination and found within the os uteri, a small polypus about the size of a quail's egg; one-third of the tumor was protruding from the os. I was then satisfied that it was the polypus that was causing the hemorrhage, notwithstanding the opinion of the midwife. I was not prepared with suitable instruments at that time to remove it, but requested the husband and the patient to go to the City Dispensary on the following day, as that was my day at the clinic, and I would remove it, and the operation would not cost them anything. They promised to do so, but disappointed me. I lost sight of the patient until Aug. 30, 1877, at which time I was called to see her in great haste. I found the patient very much prostrated from the loss of blood. I at once directed stimulants and injections of a solution per sulph. iron, which temporarily checked the flow of blood. I then introduced a very large speculum and discovered that the tumor had increased very much in size, at this time as large as a turkey's egg. I obtained her consent to remove the polypus, and proceeded to do so by strangulation. With the assistance of Dr. J. W. Compton, we applied the ligature by the use of an improved Gouch's double canula, armed with a silk ligature; we passed it around the pedicle, and as soon as the ligature was tightened the hemorrhage ceased. I much prefer the silver wire ligature, but could not obtain them in the city.

The canula was given one turn each day, until the fourth, at which time the instrument came away; on making an examination of the canula, I discovered that the ligature was broken in the center of the loop that went round the pedicle, but the tumor was completely strangulated. There was considerable fetid discharge from the vagina at this time, and I ordered the vagina well washed out, twice a day, with a solution of permanganate of potassa, to keep the vagina well cleansed. I introduced the speculum on the fourth day after the polypus was ligated, and with the use of the uterine forceps I removed very readily a large mass of putrid flesh.

I examined it under the microscope, but was unable to find cancer cells; therefore, I pronounced it a benign tumor. I ordered the vagina to be kept well cleansed with castile soap and water, and to continue the solution of permanganate of potassa.

That day the patient had a very severe chill, feet and legs

were cold to her knees, and high fever following, with delirium and stupor. I suspected septicæmia or malarial fever. It proved to be the latter. I ordered diaphoretics and sedatives, to be followed with sulph. cinchonidia, as soon as the fever went off. Fifth day—Patient very much better; no fever; continue the cinchonidia. Sixth day—The patient has high fever, with delirium and stupor; suspended the cinchonidia and ordered sedatives. Seventh day—The patient has no fever; continued the cinchonidia. From this period on the patient continued to improve.

On the 13th day after the operation the patient was able to walk to our office, a distance of three squares. I at this time made an examination with the speculum, and found the os uteri and neck very much bleached, but healthy in every appearance; not a trace of the polypus could be seen. The patient left the city a few weeks afterwards, and I have heard from her but once, a few months ago, and then she was in good health.

THIRD CASE—Whilst in Madisonville, Kentucky, on September 19th, 1877, I was requested to visit Mrs. G., in consultation with Dr. J. W. Pritchett. We found the patient suffering very much from retention of urine; dull heavy pain in the back and lower part of the abdomen, with hemorrhage from the uterus, and a profuse discharge of a yellowish looking water. The history of this case is as follows: The patient is 45 years of age; has had one child, 13 years old; has enjoyed good health until about three and a half years ago, at which period she suffered from some uterine trouble, and was under medical treatment for several months for ulceration of the os uteri; but she continued to grow worse. After submitting to the treatment of two or three other physicians, without improvement, some friends advised her to go to Louisville, Kentucky, and place herself under the care of physicians there, which she did. The physicians (I did not learn their names) made a careful examination, and diagnosed her disease, cancer of the uterus, and advised her to go home and "die, as she could not possibly live longer than six weeks." This time having expired, and she still living, she concluded the Louisville physicians might possibly be mistaken, and was anxious for relief. She requested me to examine her case. I introduced a small speculum, which caused considerable pain and hemorrhage, but the examination revealed

a large cauliflower excrescence from the os uteri, with adhesions to the vagina. I also made a digital examination with the patient lying on her back, and also on her side. I could carry my finger from the attachments round the excrescence back to the adhesion in front, but was unable to carry the finger all round the tumor.

I was of the opinion that the excrescence should be removed, and so expressed myself to Dr. Pritchett. If the tumor is cancerous the removal would give temporary relief, but, if not cancerous, permanent relief would be the result of the operation. I brought some of the secretion, from the uterus, home with me, and examined it under the microscope, and found it to contain some cancerous looking cells, but not as well defined as I have seen in other specimens. The cancer cell is peculiar to itself; no other is like it. After examining quite a number of able authorities, I determined to remove the excrescence, the patient being willing. I will quote from some of the authorities in support of my opinion in removing cauliflower excrescence.

Sir J. Y. Simpson in his lectures on diseases of women, says: "The patient, the subject of the case, had a large cauliflower excrescence, the size of an egg, removed eighteen years previously. Since that period she has had five children, and was still alive."

Thomas, on diseases of women, says: "To amputate or destroy the diseased part as completely as possible. To be effectual, amputation should be rendered complete, either by making firm traction, and stretching the resilient tissues of the neck before application of the wire, so that the remaining stump will be represented by a cone, with apex towards the fundus; or by removing the neck by the wire, seizing the stump, and by the cautery-knife, cutting out as much as possible from the tissue of the uterus."

Hewett, on diseases of women, says: "Cauliflower excrescence, most authorities are agreed as to the propriety of removing the diseased structure when the disease is limited to the os uteri, and the uterine tissue above is not affected. The cases are most favorable for operation when the vaginal portion, at its junction with the vagina, is not thicker than usual, and when, consequently, the tumor alone constitutes the disease. The operation may be done also when the cervix is a little enlarged."

Prof. Erichsen says: "The cauliflower excrescence from the

uterus, attended by copious discharge, is a rare and dangerous affection. The only treatment that appears to be of any avail, is to draw down the neck of the uterus by means of a vulsellum, and then to excise the tumor with the surface from which it grows. This operation is not attended by any very severe hemorrhage, and succeeds in ridding the patient effectually of her disease."

Miller, on surgery, says: "The only chance of cure is by direct, early and thorough removal of the morbid structure; and this may be effected by cautery or by incision. The actual cautery has been employed with this view, but is now in most cases laid aside. Potential cautery, potassa fusa, mineral acids, chloride of zinc, arsenic have held their place longer and with a better prospect of continuance of tissue, but yet must give way on the score of efficiency, to the knife. Their present place, in good surgery, is not among the main agents of removal, but only auxiliaries. When the knife has taken away as much as it can, and a suspected portion yet remains, inaccessible to its edge, the cautery is then most useful."

Prof. Gross says: "When the disease is strictly limited to the neck of the organ and there are no contra-indications, as for instance, the existence of cancer in other parts of the body, an operation may at least prolong life and prevent suffering. It is here more particularly that recourse might advantageously be had by the use of the *ceraseur*, as being much more rapid in its work than the ligature, and less liable to be followed by hemorrhage than the knife."

With the above quoted authorities to support my opinion, I, on the 4th day of October, 1877, removed the excrescence, first placing the patient under the influence of chloroform, and being assisted by Drs. Pritchett and Boyle, of Madisonville, Ky. By introducing Knott's speculum, and with a pair of forceps I removed, by "piece meal," a large mass of granular looking flesh which bled quite freely. I applied bromine to the stump or pedicle in order to destroy any portion that might be remaining. After washing away the bromine, I saturated a small sponge in a solution of per sul. iron and applied it to the stump, and filled the vagina with sponge in order to check the hemorrhage. Dr. J. W. Pritchett and myself called to see the patient some four hours after the operation, and there was no hemorrhage of consequence. The patient was suffering with pain in her back and extending down her hips. Dr. Pritchett admin-

istered, hypodermically, one-third of a grain of sul. morphine, which caused the patient to rest quietly through the night. Dr. Pritchett continued to visit the patient, once a week, and apply to the neck of the uterus some stimulating remedy. The patient continued to improve.

I saw the case with Dr. Pritchett on Nov. 17th. We found none of the cauliflower excrescence remaining, but the os was open and the edges or lips were rough and nodulated. On a digital examination I found the neck and uterus very hard. I applied bromine to the neck and os quite freely. I made an examination through the rectum and found the uterus pressing against the sacrum and almost blocking up the passage, so much so that the patient had great difficulty in defecating unless the contents of the bowels were rendered fluid by a cathartic. The bladder at this period was very irritable and she experienced great difficulty in voiding urine.

I saw nothing more of the patient until the 18th of January, 1878, at which time she came to the city, entered St. Mary's Hospital, and placed herself under my care. In company with Drs. Compton, Owen and Austin, we made an examination and found the uterus very much enlarged—so much so that it almost filled up the entire pelvis—and very hard and unyielding. There was considerable hemorrhage during the examination, but on application of the compound carbolic acid mixt. we soon checked it. We were all of the opinion that the case was a hopeless one—cancer of the uterus.

Dyspeptic symptoms were very prominent, with constipation of the bowels. I ordered ingluvin grs. x, three times a day, after each meal. Also a pill composed of aloëin grs. x, podophylin gr. v, nux vomica alc. ext. grs. v, capsici grs. v. M. Pil. No. xx; one to be given three times a day until the bowels moved regularly. After taking three pills her bowels moved twice and rather copiously. Three specimens of her urine having been obtained at different times, and examined under the microscope and by other means, revealed large quantities of albumen, and also cancer cells. This being ascertained I at once put the patient on ten grs. iodide potassa three times a day.

Having no hopes of benefitting the patient, I wrote to the husband the condition of his wife, and advised him to take her home, as no human could give her relief. The husband came over on the first of February and took her home, and since

which time there has been no treatment given her except palliatives. She continued to suffer excruciating pain until June the 16th, when she passed away. But, however, before she died she requested that a post mortem examination be made, as it might be the means of relieving some unfortunate being afflicted as she was.

Drs. Pritchett and Boyle, of Madisonville, Ky., held the post mortem examination. I am under many obligations to Dr. Pritchett for preserving the specimen in carbolized water until I could remove it to this city, which I have done, and sealed it up in alcohol. The specimen, gentlemen, is before you. The uterus is very much thickened, and is attached to the bladder by very strong adhesions. The walls of the vagina and bladder are so much disorganized that in removing it the fingers slipped through, leaving an opening between the bladder and vagina. There were also adhesions to the rectum and sacrum. The neck of the uterus was entirely gone. I made an examination of the mass under the microscope and found the peculiar cancer cells.

ARTICLE XVI.

HEPATIC ABSCESS, WITH SOME REMARKS ON DR HAMMOND'S
PAPER. By WALTER COLES, M.D., of St. Louis.

From time immemorial the liver has been invested with peculiar interest in the minds both of the laity and of practitioners of medicine, and has been in one way or another associated with nearly all the ills that flesh is heir to. The rapid strides, however, which of late years have marked the study of its physiological and pathological relations, has led the medical profession to view this organ in a new, yet no less important light, than that in which our forefathers were wont to regard it. Notwithstanding advances in the scientific world, many crude notions and superstitions of the olden time still cling to the people generally, and as a consequence we hear every day of the various "liver complaints" with which a large mass of humanity

is afflicted. Indeed, so prone are persons to charge the liver with every vague and undefined illness, that a clever English writer has observed that "it is one of the most curious things in human pathology, if not in human nature, that a certain considerable number of people seem rather pleased than otherwise when told that their liver is affected." And he might have added, that, for these reasons, there is scarcely an organ in the body upon which the empiric and the charlatan has thriven and fattened to such repletion as upon this same much abused viscus. This is a fact well known to medical men, and yet we see no means of remedying this wide-spread delusion, other than by the cultivation of more exact knowledge upon the part of physicians, and, as a natural consequence, in time, the inculcation of sounder views amongst their patients.

Perhaps in no department of pathology and therapeutics has more satisfactory progress been made, in modern medicine, than in the matter of *hepatic abscess*, the general features of which have been so thoroughly discussed by the many able writers who have devoted their attention to the subject, that they will not be formally reproduced here; our object being to confine ourselves more particularly to certain practical and important points suggested by the recent literature of the disease.

Fortunately, in this latitude, abscess is so rare that few individual practitioners have opportunities during a life-time of witnessing a sufficient number of cases to gain a very ripe experience. Some idea of the infrequency of this affection may be gleaned from the fact that in response to recent letters inquiring as to their experience with the aspirator, several metropolitan physicians of extensive private and hospital practice have replied: "I have met with no case of abscess of the liver since this instrument was introduced,"—some eight or ten years ago. Stokes, speaking for Great Britain, remarks that "abscess of the liver, so common in India, is of rare occurrence in these countries. A few isolated cases are to be met with in medical records, but no series of cases was published as occurring in Europe until the appearance of Louis' researches on the subject. (Cyclop. Prac. Med., Vol. iii, p. 160.) Watson says: "In this climate we do not often meet with hepatic abscesses." (Practice of Physic., p. 964.) Dr. S. H. Ward, whose opportunities for judging are not surpassed by any physician in London, declares idiopathic abscess "almost limited to practitioners in India, and

to those in this country who are brought into contact with officers, seamen, and other individuals, who return invalided from tropical climates." (*London Lancet*—reprint, Nov., 1868, p. 658.) Niemeyer concludes that "it is rare in the temperate zones, but more frequent in the tropics, particularly in India, although the old accounts of its frequency there are overdrawn." (*Practice of Medicine*, Vol. i, p. 635.)

Dr. Flint asserts that "hepatic abscess is extremely rare in cold or temperate climates. It is an affection belonging *par excellence* to warm climates, although not very common in the latter." (*Practice of Medicine*, p. 467.) Such citations as these might be indefinitely extended, but are quite sufficient to indicate the universally accepted opinions on this subject. Indeed, we know of but one exception—that of Dr. Wm. A. Hammond, of New York, whose experience has led him to conclude "that hepatic abscesses are much more common with us than is generally supposed." (*St. Louis Clinical Record*, June, 1878, p. 56.)

The comparative immunity from abscess of the liver in this latitude is interesting, not only as a matter of pathological history, but assumes great importance in connection with the question of etiology. There remain certain physiological points which are not as yet sufficiently mastered to enable us to interpret fully the mechanism of heat in the production of hepatitis and abscess. That it is an important factor is certain, but perhaps its participation lies more in its influence upon the general surroundings of the patient than by direct action upon his physical organism. It influences the air that he breathes, his food, his drinks, his habits, and in short all his relations with nature. That an elevated temperature alone, even where it is combined with many well-known exciting causes, is not sufficient to produce suppurative hepatitis in northern latitudes, is sufficiently illustrated in the lives of certain artisans and mechanics of our own country and Europe, whose avocations compel them to remain subjected to great heat, with but brief intervals of rest, for many successive years; yet there is no evidence that these classes are peculiarly liable to the disease. An admirable paper on "Abscess of the Liver," by Dr. J. C. Davis, of New York, (*N. Y. Medical Journal*, June, 1878,) contains many interesting observations bearing on this question. After giving a brief "geographical distribution" of abscess, he says: "It is much less frequent on the Western continent than on the Eastern. It

is much less frequent in certain of the West India Islands than others of the same group, under the same climatical influences; as to heat, rainfall, direction of wind, geological formation, etc." Dr. Davis' field of observation was in Zacatecas, Mexico, a city of 50,000 inhabitants, situated in an elevated, mountainous region, where the mean temperature is 60° Fahr. Here, in ten years, he met with thirty-six cases, and yet he tells us that in several of the Mexican States subjected to a much higher temperature, "abscess of the liver is among the rarest of the rare diseases." These are interesting facts, and in many cases difficult of explanation, save by taking into consideration other external causes.

Stokes reminds us of the fact that abscess sometimes appears to be epidemic. The pyæmic and embolic variety is frequently so; indeed, if we accept the apparently well substantiated theory which Ribes and Budd founded on the researches of Gaspar, Cruveilhier and others, that hepatic abscess follows in a large proportion of cases from dysentery, we have little difficulty in recognizing the epidemic feature. The fact, however, that even the most malignant epidemics of dysentery in milder climates are only exceptionally followed by abscess, whilst in tropical regions this is quite commonly the case, has led to much discussion as to the true relations between these two affections as to cause and effect. It cannot be doubted that there is much truth on both sides of this question; either disease being capable of determining the other, with the essential difference, however, that in temperate regions there is the absence of that peculiar malignancy born of those general conditions recognized as the "tropical cachexia."

The causes of liver abscess, as at present generally conceded, may be briefly summed up as follows: 1, Traumatic; 2, Hemorrhagic infarction; 3, Inflammation of hydatid cysts; 4, Ulceration of gall ducts; 5, Entozoa; 6, Metastatic,—such as septicæmia, pyæmia, embolism, and including organic lesions of alimentary canal, and other parts; 7, Tuberculosis; 8, Malaria, and other deteriorating and poisonous agents, acting through the blood, such as heat, alcohol, etc.

We cannot permit the present opportunity to pass without some additional remarks, suggested by Dr. Hammond's paper on "Obscure Abscesses of the Liver, etc.," which appeared in the June number of the *Clinical Record*, and to which refer-

ence has already been made. In this paper the writer sets out with the declaration, "that abscesses of the liver may exist without giving rise to any marked local or general symptoms is a point with which those who have investigated the subject have long been familiar." Now, the foregoing as a general proposition should most undoubtedly be accepted; since it is based on facts, well known to all who have studied the clinical history of this, sometimes, very obscure affection. And, if Dr. Hammond had stuck to his text, we should have had nothing to say; but that he has not done so, either in his preliminary assumptions, or subsequent deductions, we think can be easily shown. Indeed, the paper in question, when closely scanned, reminds one of a legal brief in which an evident effort has been made to establish a certain proposition, regardless of countervailing facts,—facts which cannot be suppressed without detriment alike to the imperishable principles of science and the best interests of humanity.

In order to establish his declaration that abscess is frequently unaccompanied by any "marked" general or local symptoms, he quotes freely from many authors; among the rest Frerichs, whose exhaustive work on diseases of the liver is universally accepted as one of the most authoritative extant. Frerichs, he says, "asserts that the *fundamental lesion is either indicated by no symptoms whatever, or by insignificant derangements, which are easily overlooked.*" (The words in *italics* are taken from Frerichs, vol. ii. p. 121.) It is scarcely necessary to remark that the author thus quoted, commits himself to no such doctrine as this. But in order to illustrate the unfairness of Dr. Hammond, when he wishes to make a point in his own favor, we give below what Frerichs *does* say, when it will be seen that the Doctor appropriates only the part of a sentence, thus destroying, not only all sense, but entirely changes the meaning of the author, whom he unceremoniously attempts to impress into his service. Here is the sentence complete (those words being in *italics* which have been omitted). "*In other cases the symptoms of morbid processes consequent upon the hepatitis, or which precede and give rise to it, are the most prominent, whilst the essential fundamental lesion is indicated either by no symptoms whatever, or by insignificant derangements, which are easily overlooked.*" To indicate further the extent to which the views of Frerichs have been misrepresented, we proceed to give the remaining portion of the paragraph, of which

the foregoing is the opening sentence—we beg that the reader will put the two fragments together. It is as follows: “In our own climate this is in a marked degree the clinical history of so-called pyæmic infection, in the course of which latent hepatic abscesses are wont to be developed. In warm countries it is mostly dysentery or intermittent fever, and, according to Haspel, particularly the tertian form, which masks inflammation of the liver. Sometimes morbid processes induced by the hepatitis, such as peritonitis, or still more frequently pleurisy, or right pneumonia, give rise to such prominent symptoms that the real seat of the disease is overlooked and mistaken.”

Again, Dr. Hammond states that Frerichs, Andral, Catteloup and others have not unfrequently met with cases “where local examination furnishes no data whatever for proving a diagnosis; when neither the size nor the form of the gland is altered, and where there is no increase of tenderness.” Doubtless this is the experience of many who have seen much of this disease, but it by no means follows that in such cases there are “*no symptoms whatever.*” On the contrary, as Frerichs has explained in the sentence which the Doctor so unmercifully mutilates, there are frequently attendant symptoms of so prominent and violent a nature as to completely mask the suppurative process. This happens to be precisely true in Andral’s case, to which allusion has been made. It is that of a young man, who, after a fatiguing ride on horseback, had an attack of fever, for which no local cause could be discovered. On the 4th day he had a rigor and severe headache; his tongue was white, he had no appetite and suffered from obstinate constipation; on the 12th day he became delirious, and on the 17th he died. During the entire progress of the disease there were no local symptoms; there was no vomiting, and no jaundice; the various internal organs were carefully examined without discovering any local disease. At the autopsy all the organs were found free from any lesion of importance, and even the liver appeared normal, until an accidental puncture with the scalpel laid open an abscess as large as an orange, filled with pus, destitute of odor, and surrounded by softened red hepatic tissue. (*Clinique Medic T. II. p. 303.*) This case is interesting and instructive, but surely Dr. Hammond will not contend that it was marked by “*insignificant derangements,*” nor will he go so far as to assert that the symptoms were not directly connected with the rapid and deadly changes going on in the

liver; for the *post-mortem* too clearly reveals the facts, and leaves us only the sad regret that this young man's medical attendant was not possessed of the wonderful *tactus cruditus*, which the Doctor has developed in the detection of fluctuation. It is doubtless to this case that Stokes alludes when he says, "in all the cases of abscess of the liver recorded by Andral, there is but a single instance where the disease occurred without complication with lesion of other organs." (Ibid. vol. iii, p. 169.)

Dr. Hammond further says: "Ronis, who has written a most elaborate memoir on hepatic abscess, gives it as the result of his observations, that of 143 cases, the symptoms prior to suppuration were either entirely absent, or were undefined in 62 cases, while in 30 cases they were undefined during the whole progress of disease, and in 19 cases were either masked or latent." Somewhere in the paper we are reviewing, Dr. Hammond remarks: "At present we move in the dark, or at least in a very obscure atmosphere." Certainly his surroundings must have been somewhat hazy when he wrote the foregoing! Wherein he commences by telling us that Ronis has written an elaborate memoir, etc., on hepatic abscess, and continues, all in one sentence, to announce that "the symptoms *prior to suppuration* were either entirely absent or were undefined in 62 cases." What the symptoms were *during* suppuration or *after* suppuration—after there *actually was abscess*, the doctor conveniently omits to tell, though this is the point we are really after.

The following is an analysis of the clinical history of Ronis' cases, taken from Frerichs, (Ibid. p. 129). "Out of 143 cases, 80 commenced with symptoms of dysentery, 14 with those of gastric or gastro-enteric catarrh, 1 with those of gastralgia, 5 commenced under the form of irregular intermittent fever, and 5 were perfectly latent. In 21 cases, the symptoms of acute hepatitis, or of acute hepatitis complicated with a tendency to dysentery, were present from the first; while in 17 there were the symptoms of subacute or chronic hepatitis with dysentery." Such is the analysis of Ronis' cases, which may be taken as a fair example of the clinical history of hepatic abscess everywhere and as it has presented itself to all observers, with the exception of Dr. Hammond, whom we have consulted. The contrast between the latter's experience and that of Ronis is indeed remarkable when we come to a matter of statistics, for whilst of Ronis' 143 cases only 5 were "perfectly latent," Hammond

tells us he encountered this feature in no less than 100 per cent !

Still another statement of Dr. Hammond's needs correction, wherein a great man and a close clinical observer, now dead, is placed in a false attitude. He quotes Stokes to prove the latency of liver abscess, and refers to several cases cited by him, from the writings of Andral; in one of these cases the Doctor says, "The patient never had either sickness or pain, either in the hypochondrium or right side of the chest." Who could read this quotation, under the authority of such a name as Stokes, without perceiving at a glance how nicely it dovetails with Dr. Hammond's cases? The history of these cases and their wonderfully successful treatment has been extensively circulated and read by thousands, yet how many of these numerous readers have thought or had the opportunity to inquire whether Stokes ever penned such a statement? Well, he never did, or anything like it. The truth is, Stokes mentions this particular case as an illustration of the manner in which abscess of the liver may be complicated with other diseases, which by their *very gravity* completely mask the liver trouble; in this instance, "a schirrus state of the stomach" was revealed at the autopsy. (*Ibid* p. 69.)

But although Dr. Hammond attempts to fortify his position with an imposing array of authorities, he cannot find one of them who will assent that hepatic abscess can proceed from incubation to maturity and yet present, as he contends, "no symptoms whatever."

Obscure it often is, masked it sometimes is, latent it may be, but never without something more than "insignificant derangements" somewhere in the line of its history. Should the abscess be small and become encysted, it may remain latent for years without giving rise to serious trouble. This is the opinion of Frerichs, who mentions by way of illustration the case of Mr. Lawson, a colleague of Dr. Budd's, who "followed his profession for ten years after an attack of hepatitis, which left behind several abscesses." Here is a case where the patient enjoyed even "tolerable health" says Budd, yet it cannot be said that it was characterized by "no symptoms whatever;" on the contrary, these abscesses supervened on an attack of *hepatitis*, which is the usually recognized "*marked commencement*." The abscesses in this instance however, were very small, but had they been larger, the symptoms and constitutional effects would have been more pronounced, for, declares Budd, a large abscess "never

exists without very serious impairment of health." (Diseases of the Liver, p. 169.) There need be no high degree of fever, neither is it continuous, rather intermittent in character, but always present at some stage of the suppuration. Frerichs makes this very judicious commentary on the uncertain symptomatology of abscess. He says, "We must not always expect to meet with the entire train of symptoms perfectly developed; this is rarely the case; they are usually observed either in whole or in part at certain stages of the disease only, or, indeed, all symptoms indicative of a local lesion may be entirely absent." (Ibid p. 128.) After discussing the question of diagnosis at length and reminding us that abscess may be so masked as to be entirely overlooked even by the most skillful surgeon, Stokes says, but such cases are comparatively rare and should not discourage the student or render him skeptical as to the powers of diagnosis.

Before proceeding to explore the liver, we hold that there should be a *reasonable suspicion* of abscess. Our conclusion must be founded on a close and careful scrutiny of the whole history of the case; bearing in mind that many cases, though masked, or latent at the moment of observation, may be connected with antecedent phenomena calculated to lend valuable assistance in forming a correct judgment. When all local symptoms are absent, the diagnosis must necessarily be very difficult. Fortunately, in what might be termed "walking cases," this is less apt to be the case than when there are severe complications, distracting the attention of the nerve centers to other organs. The fact that authors lay so little stress upon *fluctuation* is significant that they deem it a sign of little or no value, when the abscess is not sufficiently large, or so situated as to bulge out the right hypochondrium, or cause the gland to extend downwards below the margin of the ribs. Even in that case, if the abscess be deep, it is generally absent. Any one who has attempted to detect fluctuation in the adult under such circumstances can appreciate the difficulty, and for obvious reasons. The writer recalls the case of a child, three years old, who suffered from hepatic abscess following a violent attack of dysentery. In this instance the local symptoms, such as pain and tenderness were well marked; the liver enlarged, yet even in this child, with its small yielding chest, there was no sign of fluctuation until the pus was pressing out the intercostal spaces; when a large abscess containing ten ounces of healthy pus was evacuated with a bistoury,

resulting in complete recovery. This, by the way, is the only case of hepatic abscess occurring in so young a subject, within our personal knowledge; the patient was the child of a gentleman residing near Parkersburg, W. Va.

We should not forget that there is a trouble, sometimes met with closely simulating abscess of the liver, and which Stokes says may be easily mistaken for it. We allude to superficial fascial abscess of the walls of the abdomen over the right hypochondrium. Stokes speaks of it as a "singular disease," generally quite innocent, though he has seen a patient die of it. (Stokes and Bell, p. 530.) We well remember a puzzling case of this nature many years ago in Bellevue Hospital, New York, which was not without difficulty diagnosed by Dr. Alonzo Clark.

The improved instruments which we now possess render it much easier and safer to test our diagnosis in obscure abscesses than formerly. Though we repeat, that no one is justifiable in puncturing the liver unless he has a reasonable conviction that it is the seat of abscess. On this point it does seem to us, that the teachings of Dr. Hammond partake too much of the enthusiast, and are well calculated to bring an important and useful surgical device into disrepute. He actually goes so far as to annunciate the proposition, "That in all cases of hypochondria or melancholia, the region of the liver should be carefully explored, and that even if no fluctuation be detected, or any other sign of abscess be discovered, aspiration being a harmless operation, should be performed"! To array any formal argument against such a doctrine as this would be a manifest reflection upon the intelligence of our readers, who are familiar with the fact that whilst hypochondria, insomnia, etc., are common accompaniments of nearly all affections of the liver, yet that they are symptoms which by no means belong to this organ *par excellence*. If this rule of the Doctor's were universally adopted during these times, when there is so much mental depression from business and other causes, what a pecuniary harvest it would prove for the doctors, even at a moderate fee *per puncture*! Aspirators would soon be in greater demand than "blue glass," or "Holman's pads," and we might all do a lucrative business, "prospecting the liver," as Prof. Aitken derisively terms this "haphazard" practice. (Science and Practice of Med., Vol. 11, page 834.)

As before remarked, Dr. Hammond has been at great pains,

to quote everything he could find bearing favorably on the points which he wishes to inculcate, whilst equally studious in omitting all counterbalancing testimony. He makes much of, and even founds a new theory of hepatic abscess upon, the recent researches of Cyon and Aladoff, into the anatomical distribution of the vaso-motor nerves of the liver; yet he brings forward not one atom of proof that these discoveries account for a single case of abscess. The nerves in question, like the rivulet of the wilderness, ran thus, even before they were dreamt of by man. And yet, is it not strange that they have only recently, and all of a sudden, developed potency in the production of abscess? Why is it that prior to the discovery of Cyon and Aladoff, hypochondria and cerebral hyperæmia were scarcely ever known to be complicated with abscess of the liver? Facts are far more eloquent than mere theories; let us see what the former teach us. Prichard says, "Medical writers formerly attached great importance to the liver, in disorders affecting the mind; later researches have by no means confirmed this prejudice. Esquirol found two instances of diseased liver in 168 melancholies, while in the same number there were 65 morbid changes in the lungs." (Prichard on Insanity, p. 173.) The same author remarks that in 60 autopsies of cases of dementia there were only 2 in which the liver showed evidences of disease. In 259 post mortems of insane persons displaying morbid changes of structure in various organs, other than the brain, Scipion Pinel found lesion of the liver in only 5. (Guislain, p. 138.)

But the question arises, under what circumstances shall we explore the liver for abscess? Dr. Davis, whose recent paper on this subject may be regarded as the most valuable and practical yet contributed to American literature, lays down the following rule as to the proper time for exploration. He says: "What are we to do in an acute case of hepatitis, when well marked symptoms of suppurative fever arise? I answer, unhesitatingly, ascertain if possible the seat of abscess, and unless well defined symptoms are present, which point to the lungs as the probable outlet for the pus—*puncture*."

Dr. W. H. Ford, of this city, who has seen quite a number of cases of hepatic abscess, and has had a good deal of experience with the aspirator, makes the following remarks in reporting a fatal case of abscess in which he had employed that instrument, in the *St. Louis Clinical Record* for July, 1876. He says:

“Though puncture of the liver by Dieulafoy’s needles is not an absolutely innocent procedure, notwithstanding his assertions in this respect, which, perhaps, are a little too emphatic, nevertheless, like most other well devised and properly guarded surgical measures, it is infinitely less dangerous than the condition it is intended to remove. When, therefore, symptoms point to the formation of abscess in the liver threatening to perforate the diaphragm, the pus ought to be withdrawn by the aspirator. The symptoms denoting the propriety of this, will be the usual ones indicative of hepatic abscess, etc., etc.”

Prof. Maclean, of Netley, an ardent advocate of tentative aspiration, declares that when he has a case of dysentery with hepatic symptoms so acute as to lead to the suspicion that pus has formed, he always punctures; believing that if there is abscess the sooner it is evacuated the better, and should there be none the local abstraction of a little blood proves salutary. (*Lancet*, October, 1873.) Cameron, Condon, and others coincide in these views. Dr. Dieulafoy, whose name is indissolubly connected with the aspirator, and who is certainly as enthusiastic an advocate of his invention as any one can be, declares in favor of early exploration, and would resort to it “when palpation and percussion disclose an increase of volume in the liver; when this increase has been rapid and accompanied with pain in the lower border of the organ and in the right shoulder; when these local symptoms are connected with general phenomena such as sweats and fever, more or less intermittent.” (*Pneumatic Aspiration*, p. 93.)

We might thus go on and cite other authorities, but these are amply sufficient to indicate the generally accepted views of the most advanced advocates of the aspirator, as a diagnostic instrument.

But having thus verified the existence of abscess, what is to be done? The indications are plain; the pus should be evacuated without removing the needle, provided it is of sufficient size not to clog, which will frequently be the case even with those of larger calibre—the cavity being cleansed with some suitable antiseptic fluid. The needle may then be withdrawn and the patient kept quiet (a point insisted on by Dieulafoy) with a hope that the cavity may contract and no further collection of matter take place. This has been known to occur in several instances, even when the abscess was large—it occurred in all of Dr. Ham-

mond's cases without even the precautionary washing out) though this is by no means the rule. The tendency to re-formation of pus in all abscess cavities is well known. In 15 chronic and metastatic abscesses, not of the liver, tabulated by Dieulafoy, there were 39 aspirations; 10 are reported cured and 5 improved. Only 3 were cured by one aspiration. (Ibid p. 355.) The same author recites in detail the treatment by aspiration of seven cases of hydatid cysts of the liver. In 3 cases one aspiration effected a cure; 1 case required three punctures, the fluid remaining limpid to the last. In one other the fluid became turbid "but, had not time to be completely changed into pus, as cure was effected after the second puncture." The sixth and seventh cases completely degenerated into abscess; the sixth case was cured in six punctures, whilst the seventh was aspirated *300 times*, and still not cured—a drainage tube having to be introduced.* (Ibid pp. 52-57.) Such is the rarity of liver abscess in "European countries," that Dieulafoy was unable, between the years 1869 and 1873, (the date of the publication of his book) to find but *one* case in the hospitals of Paris upon which to try his instrument. This case was cured, but required two aspirations.

The experience of Condon at Madras, in the treatment of abscess of the liver, exclusively by aspiration, is anything but encouraging. He reports 12 cases, (*London Lancet*, Aug. and Sept. 1877), though in reality he only had 8, since cases 2, 4, 7 and 10 on being explored, turned out to be free of abscess and finally convalesced—the patients returning to duty as soldiers. In two other cases where abscess existed, the aspirator failed to reach it; the pus made its way into the lungs and produced death. In only 6 cases, therefore, did the aspirator cut any figure as a curative instrument. In one the needle clogged so badly as to render aspiration useless. Of these six cases, two were cured; one after three, and the other after five punctures,

* NOTE.—In several of Dieulafoy's cases very dangerous symptoms followed puncture. Davis mentions one case within his knowledge where exploratory puncture caused death. Moissennet saw death ensue in eighteen hours after puncture with smallest sized trocar. The patient fainted immediately after the operation, rigors set in, followed by green vomiting and cold extremities, pains in the abdomen and death from peritonitis (*Archiv. Gén. de Méd. Ferr.*, 1859.) Robert, Demarquay, Dolbeau and Jobert have all observed symptoms of commencing peritonitis, which were however arrested.

whilst four died after an average of thirteen and one-half aspirations.

Dr. Davis has kindly furnished us with the following tabulated statement of the treatment, result, etc.; of thirty-six cases of abscess seen by him at Zacatecas.

NO. OF CASES.		DEATHS.	RECOVERED.
6	Opened into bronchia.....	1	5
2	Opened by incision.....	0	2
1	Simple puncture with trocar.....	0	1
5	Aspirating trocar (largest size.)....	4	1
18	Trocar and drainage tube.....	10	8
1	Natural opening—external.....	1	0
1	Opened into the colon.....	1	0
2	Abscess remained intact.....	2	0
TOTAL 36		19	17

From the foregoing, it would appear that the true province of the aspirator is restricted. As a diagnostic instrument, it is indeed invaluable, and is sufficiently harmless to justify its use in all cases where there is a well grounded suspicion of abscess. As a means of cure, simple and repeated puncture may be tried on all occasions where there are no evident symptoms of external pointing. Should, however, the abscess refill, as is apt to be the case, and evince no signs of amendment, it is better to insert a drainage tube,—keeping up proper cleansing and dressing. Maclean says, “when the cavity, after being once or twice evacuated in this way, fills again, I believe the patient’s best chance of recovery will be to make a free opening, after Mr. Lister’s method, which gives the advantages of a free drain without the admission of air unfiltered through an antiseptic medium.” It is always desirable that the pus remain free from decomposition. According to Davis, “if it becomes fetid, it is of the worst omen.” We can conceive of but three conditions under which the contents of an abscess could become fetid prior to evacuation, and not necessarily so then, *i. e.*, gangrene; hydatid decomposition; proximity to the lung or colon. Dr. Davis says, “I have never met with a case where fetid pus was found at a primary puncture.” (Autograph letter.) Neither can we understand how fetor could exist without decided local or systemic disturbance. In a clinical lecture at St. Bartholomew’s Hospital, Dr. Andrew remarks that hectic is by no means a necessary accompaniment of suppuration, “if, however, pus, or even serous fluid, were confined in a cavity, and ceased to be of laudable quality, a constitutional effect

would at once be found to ensue." (*Lancet*, 1870, p. 605.) A remarkable feature in one of Dr. Hammond's cases was the abstraction of ten ounces of pus of a "highly offensive odor," yet the patient was free from all local symptoms, and had no pyrexia whatever.

We beg leave to advert yet a little further to Dr. Hammond's paper, which we have already shown to be full of errors both of omission and of commission, well calculated to exert a harmful influence upon practical medicine, emanating as it does from a teacher, whose prominence entitles him to the attention and respect of the medical world. But the truth is, there is not a single original point in the Doctor's article which can be sustained either by clinical experience or the teachings of pathology. The salient propositions of Dr. Hammond are: First, That abscess of the liver is quite common even in this country. Second, It is frequently the result of hyperemia of the brain, sufficiently so, to demand exploration of the liver, irrespective of symptoms, in all cases of hypochondria and melancholia. Third, That all cases should be treated by one particular method. Fourth, That this method is not only innocent in itself, but that its results are altogether satisfactory; so much so indeed, as to rob hepatic abscess of all its well known terrors. We say that these are natural and just inferences from the Doctor's paper, in the review of which we have already had occasion to call attention to several misquotations and mystifying expressions, calculated, if not intended, to convey erroneous impressions. In this connection we beg leave to notice another *double-entendre*, lest others may be misled by it, as we confess we were when we first read it. In speaking of his method of operating, Dr. Hammond makes this declaration: "That the operation of aspiration is free from danger. Dr. Davis never saw any ill consequences from it, and Dr. Jimenez, of Mexico, states that of the hundreds of times he has punctured the liver through the intercostal spaces for abscesses, he has never once seen the operation followed by peritonitis." Now let any one unacquainted with the facts read over the above and ask himself what it means? He is bound to conclude that Dr. Hammond intends to convey the idea that Jimenez employed the *aspirator* "hundreds of times." The sentences are so framed and connected as to admit of no other construction, and such *was put upon it*, until Dr. Davis' paper subsequently appeared, fully explaining what is known in

Mexico as the Jimenez method,—of simple and repeated punctures through the intercostal spaces by the ordinary trocar. Whereas Jimenez, who died in 1875, at an advanced age, had about completed his professional career before he ever heard of the instrument. Again Dr. Hammond misleads his readers when he conveys the impression that *simple puncture* is the accepted method of the present school of Mexican surgeons. For although Jimenez may not have met with "*peritonitis*" as the result of his numerous operations, he nevertheless encountered discouragements in the shape of *mortality*, which led him finally to abandon his method for that of Vertiz, wherein *drainage* is the essential superaddition. Dr. Davis tells us, "Vertiz's modification was the introduction of the drainage tube. Jimenez at once acknowledged its efficiency and used it, lessening, he claimed, the death rate 50 per cent. over the simple and repeated puncture as formerly practiced by him." (Autograph letter.)

There are other points in Dr. Hammond's paper which we should like to notice, but must conclude. We cannot do so, however, without calling attention to the most extraordinary of all the remarkable features of the Doctor's experience in hepatic abscess. He seems dissatisfied with the hitherto accepted etiology when applied to his own cases; he therefore broaches a theory of his own, and suggests that these abscesses were due to the "*brain disturbance*" under which his patients had all previously labored. In other words, he regards the abscess as an *effect*.—the brain disturbance, the *cause*. But, *mirabile dictu!* he removes the *effect*, and forthwith the *cause* vanishes! This is indeed a specimen of "back-action" therapeutics which quite staggers our confidence in the established principles of medical art! We have pondered over this wonderful dénouement until our mind, like Noah's weary dove, has found but one solution, and that is suggested in the classic lectures of Dr. Henry Maudsley "On the relations between body and mind." "Can it be doubted," says he, "that the strong belief that a bodily disorder will be cured by some appliance, itself innocent of good or harm, may so effect beneficially the nutrition of the part as actually to effect a cure?"

* * * * * Perhaps we do not as physicians consider sufficiently the influence of mental states in the production of disease, and their importance as symptoms, or take all the advantage which one might take of them in our efforts to cure it. Quackery seems to have here got hold of a

truth which legitimate medicine fails to appreciate and use adequately. Assuredly the most successful physician is he who, inspiring the greatest confidence in his remedies, strengthens and exalts the imagination of his patient; if he orders a few drops of peppermint-water with the confident air of curing the disease, will he not really do more for the patient sometimes than one who treats him in the most approved scientific way, but without inspiring a conviction of recovery?"

3007 OLIVE STREET.

ARTICLE XVII.

EPITHELIAL CANCER.* By WM. DICKINSON, M. D., of St. Louis.

In the discussion of this subject, I propose first to narrate a most interesting case of epithelial cancer of the globe, which, some years since, came under my treatment. This is, however, the second and most important of two cases of a like character, having a similar situation, receiving similar treatment, and followed by like results. In the case of the former, an operation for its removal was repeated after an interval of twelve months, on account of a partial regeneration of the abnormal growth. Since that time no evidence of renewal has been manifested, though nearly ten years have since elapsed.

C. R., aged 47 years, having blue irides, about Oct. 1st, 1873, had a slight attack of acute conjunctivitis, attended by the usual symptoms of vascularity, lachrymation and muco-purulent discharge. A week later, while on his way to St. Louis by rail, he was conscious that a cinder impinged upon the left globe. Though it occasioned him considerable inconvenience at the time, he supposed it found its way out of his eye. For the treatment of the conjunctivitis, at his own instance, he used "Thompson's eye water." In a few days both eyes became inflamed and gave him much pain. About the middle of October, a friend observing something unusual in the appearance of his eye, inquired "if there was not something growing upon it."

* Read before the St. Louis Medical Society, May 11th. 1878.

Having called the attention of his wife to it, she observed quite an elevated spot on the eye at the corneal margin in the equator, and also, from the corneo-scleral border at its upper and outer part, an elevated band of conjunctiva, red in color, and one-quarter of an inch in width, extending thence towards the external canthus. This body soon began to change its form, and, finally assuming a heart shape, to inclose, by its re-entrant angle, the corneal periphery, the apex being towards the external canthus. Early in November he consulted several specialists in this city, who were agreed in opinion in regard to the character of the excrescences, one of whom urged the immediate extirpation of the globe to avert threatened and a speedy death. No operation was performed; but he continued to use a variety of astringents of his own prescription or through the advice of friends, by which he thought its magnitude was at first somewhat diminished. The tumor had latterly, however, increased in thickness and extent; at no time had it occasioned him much pain, yet, on account of its prominence, it had been the source of great discomfort, greatly impeding the ready closure of the lids.

On January 8th, 1874, more than three months after the invasion of the affection, he first consulted me. At this date the growth was of a heart or almond shape, as already described, of a greyish white color, and extended in the equator from the cornea nearly to the external canthus. It embraced one-third of the periphery of the cornea, and overlapping it, being at this extremity about one-half an inch in breadth, and three-quarters of an inch in length. It presented a villous, warty surface, the superficial portions to some degree readily breaking down by gentle pressure with the probe; friction of the lid caused much irritation, which latter was also aggravated by exposure to the air.

It was firmly adherent to both the sclera and cornea. The acuteness of vision of this eye was in no degree affected; indeed, he thought it was greater than that of the other eye. A portion of the mass submitted to the microscope exhibited only an immense number of epithelial cells with their varied sizes and shapes. Upon it were visible both superficial and deep blood vessels continuous with those of the ocular conjunctiva. A mole of the size of a small pea was also observed situated on the corresponding cheek.

DIAGNOSIS.—The diagnosis was unhesitatingly given as epithelial cancer. Considering that there had been almost entire immunity from pain; that the position of the excrescence was superficial, though immovable on its base; that suppuration had not taken place, though apparently imminent; that no evidence of the lymphatic glands existed; mindful that no propagation of the disease could take place until the lymphatic glands had in their turn undergone a complete transformation; also, that this was the least malignant of all carcinomata, and encouraged by the happy results that had followed the treatment pursued in the former case, in most respects identical; and believing that conservative surgery in this instance was not only safe, but justifiable and indicated, I advised the removal of the excrescence with the knife as completely as possible, and the destruction with the crayon of arg. nit. of those portions which could not safely be excised. The patient readily consenting, I accordingly performed the operation without the use of anaesthetics, on the same day, and *apparently* succeeded in removing in breadth and depth the entire mass.

The wound resulting, kindly and uniformly contracted and filled with granulations covered with epithelium; but during the third week after the operation, a slight evidence of a limited regeneration of cancerous elements at several points in its periphery occurred. These points were cauterized with arg. nit. At his request January 31st, I permitted him to return home, for an absence of four days, which he extended to *seven* days. On his return, I discovered a considerable *nîsus* to a renewal had taken place; but, notwithstanding, the entire area and magnitude had been diminished fully one-third.

Greatly encouraged at present results I inclined to repeat the operation. Wishing to proceed most advisedly in a case of so great moment to the patient, I invoked the counsel of my friends, Drs. Gregory and Edgar. These gentlemen, though agreed in the opinion that extirpation of the globe was now not only justifiable, but would confer the highest degree of immunity from a recurrence of the affection, yet, as no evidence of lymphatic infection had appeared, and, as from the operation performed at the outset so great diminution of mass had been obtained, and like results *might* follow a repetition, they gave their sanction to the latter, reserving the more heroic method of procedure, should indications therefor in the future become more

pronounced and imperative. In mild, our patient was prepared for either mode of operation, though this eye continued to furnish him with the most acute vision. By the valuable assistance of these gentlemen, on February 11th, I proceeded to shave the growth from its base, endeavoring to carry the knife as deep as practicable so as to include the deepest layer of epithelial cells penetrating the sub-epithelial tissues, and afterwards thoroughly cauterizing any papilla or spots suspected of being a focus of cancerous matter. The wound thus made was about one-half an inch in vertical diameter and three-fourths of an inch in length. The crayon was occasionally used subsequently, as indications arose. Cicatrization rapidly ensued and area observably contracted daily. Convalescence continued so favorably that I permitted him, on the 27th, two weeks after this operation, to return home. After an absence of six days he returned. The beneficial results of the operation were still manifest in their highest degree, with no evidence of a reproduction. A few elevated points, that might be suspected of being malignant, were cauterized as before, and after remaining under observation for about a week he was pronounced cured. More than *four* years have now elapsed since the operations were performed, and no evidence of regeneration has appeared, though a recurrence within twelve months is very frequent, and he now lives in the full exercise of vision of two good eyes which bear eloquent witness and testimony to the triumph of conservative surgery.

Whatever dyscrasia may have pre-existed in our patient, there is no evidence during three generations that this affection was hereditary. In the present state of pathology we cannot assert that the attack of conjunctivitis, nor the effects of the foreign body, were the cause of the generation of this neoplasm; they undoubtedly conspired to awaken into activity a local predisposition to this form of disease.

I beg to quote a similar case from Moorfield's Oph. Hosp. Reports, vol. 9, p. 229. Mr. Hulke, of Moorfield's Hospital, London, narrates a case of epithelioma of conjunctiva, involving the "Corneal epithelium in a man of 60 years, active, well nourished and in good general health, April 29th, 1876. Eighteen months ago he first observed something unusual in the right eye. On the outer third of the corneal periphery and involving the adjacent conjunctiva, is a patch consisting of a number of small red papillary elevations. It has caused slight uneasiness from the

rough surface rubbing against the lid. The epithelial growth was now shaved off with a scalpel, and the raw surface touched with solid nitrate of silver. A cold compress was applied, and atropine and castor oil dropped occasionally into the eye. Discharged May 6th.

On June 14th, the growth having returned, it was again shaved off, and he was discharged the next day.

On July 5th it seems to have been more or less subdivided into three elevated patches. These were now all shaved off, and the surfaces cauterized. Some irritation followed. Discharged July 8th. On November 18th there were two patches of papillary elevations which were treated as before. This followed by considerable pain and edema of the lids. The sloughs separated on the second day. Discharged November 22d. After this operation the ulceration following the slough showed no tendency to heal, and the growth seemed progressing more rapidly than before. There was now much pain, and on December 30th the eye was excised. The left eye was quite unaffected throughout. Discharged Jan. 3, 1877. The tumor consisted of a multiplication of the conjunctival epithelial cells. The proper tissue of the cornea is only affected as to its structure, by an increase of its nuclei, though the lamella are separated by cell processes ramifying between them. By this means the corneal thickness is of nearly twice its normal measurements."

Having given the history of this case, its treatment and the results, I beg the indulgence of the Society while I present some general observations respecting the genesis of epithelial cancer which the case has suggested.

Waste and repair, death and degeneration are normal processes, and are therefore indispensable to the healthy performance of the functions of the human economy; essential factors in the support and perpetuation of animal life. The senescence and exfoliation of an epithelial cell, and the generation and substitution of another, possessing all the vital peculiarities of its antecedent, ever repeated in endless succession during the life of the individual, is the simplest description of a normal process—a physiological biography and obituary—attracting no observation, nor obtaining special significance; but when from inherited or developed tendencies or specific irritation, or from these combined, or other determining causes, proximate or remote, the normal relation of exuviation and regeneration is

interrupted or destroyed, and waste exceeds repair, or regeneration outstrips death and desquamation, how profound the significance; for then nature evincing sincere alarm testifies, by palpable consequences, which are infallible, that disease is present, which sooner or later *may* determine the life of the individual.

In health or in disease, the epithelia play a most important rôle. When we consider the vast extent of the epithelial clad surfaces of the body, viz: The skin, the gastro-respiratory apparatus, the genito-urinary surfaces, the serous surfaces, it appears strange that the importance of the epithelia, to so great a degree, should have been overlooked by earlier investigators. For after excluding those diseases which find their seat in any of the epithelial clad surfaces, the list of those remaining will bear but a very small proportion to the entire catalogue. Modern histology has demonstrated that even the first layer of the blastoderm, the first organic membrane that distinguishes the individual, is of an epithelial character. Carcinoma and cancer etymologically are synonymous terms, employed to designate a specific form of malignant disease, which is incompatible with the salutary continuance of the entire nutrition. While common usage has retained the term epithelial cancer as presenting the general or constitutional features of cancer in the last intense form, it has reserved that of carcinoma to include those of a higher degree of malignity. The mere form, size or other peculiarity of cell is of no decisive diagnostic value, though it has been the agony of the pathologist, armed with the microscope and all other supplementary aids, to achieve such a result, in order that the innocence or malignity of the neoplasm might be determined before its full development should determine its real character. Marked differences do exist in the secondary structures, but not in the primordial elements. For example, epithelial cancer consists of epithelial cells alone; has no stroma of its own; its proper structures being sustained by the remains of the original textures of the affected part; while carcinoma is a pathological neoplasm consisting of stroma and cells.

Epithelium covers the cornea and the conjunctiva of the globe, with which it is in direct continuation, as portions of the integumentary surface. The epithelium of the cornea briefly described is a laminated pavement epithelium composed of several strata, the most superficial of which consists of flattened,

nucleated cells forming a mosaic work arranged in manifold layers, one above the other. These cells are elongated, having a greater diameter in the direction of the corneal surface, than the subjacent cells, which present a polygonal form. The deepest layers situated directly upon the corneal tissue also consist of elongated cells, but in a direction perpendicular to the surface.

The origin of epithelial cells and the manner in which epithelial structures grow and repair themselves, has hitherto defied the demonstration of physiologists. Many who formerly held indubitably to the doctrine that these cells were the products of proliferation of derivatives of the connective tissue cells, have been obliged to abandon this assumption or modify their views by the demonstrations of Thiersch, Waldeyer and Billroth, who maintain a strict boundary between epithelial and connective tissue cells. It is, however, usually conceded that the deepest layer of epithelium contains the most densely crowded cells; that they arise close to the connective tissue and thereafter are pressed outwards by a *vis a tergo*. These are distinguished by their small size, softness and want of membranes; the nearer the surface increasing in magnitude, presenting a more distinct membrane and acquiring a more characteristic form. Whatever be the origin of epithelial cells, and in obedience to what vital energy the growth of epithelial structures proceeds within the domain of physiology, the same laws of normal growth are correctly maintained in the development of cancer even in the extremest and most dangerous excesses. The elements are in themselves normal. The general statement also obtains, that every pathological structure has its physiological prototype; and that their growth follows the same laws which govern the development of the normal tissues; hence the persistency, the organ-like character of their existence.

The essential character of epithelial cancer is, that it is chiefly composed of cells, growing for a purposeless object, which, in most cases, bear a general resemblance to those of permanent epithelium, such as lines the interior of the lips and mouth; that these cells enormously increased in number and size are aggregated in and around a focus specifically conditioned. The aggregation of the epithelial cells proceeds from the under surface of the epithelium in the form of cones or strands, and striking deep insinuate themselves between the separating filaments.

of the underlying connective tissue. This *interstitial nusus* has no analogue in physiology. And the interstitial formation of structures like those of epithelial cancer is not an imitation of any natural tissue. It is to this latter characteristic that its malignity is due, destroying not merely by pressure, but by an inherent tendency to convert the neighboring structures into their own substance. Interstitial growth and lateral extension are especially rapid after ulceration of the neoplasm has taken place.

CAUSE.—Two general causes are recognized which determine the presence of an adventitious growth or deposit in the body, local and constitutional. Occasionally have appeared those who were bold enough to deny, or at least not to admit, the hereditary character of this affection, but the instances are so rare that we shall assume as granted that the cancerous dyscrasia is generally inherited, and is the most powerful factor in determining the appearance of the disease, whenever a sufficiently potential local cause shall have been applied. The tumor, therefore, is but the local expression of a specific predisposition, or a proclivity developed on the part of the subject to this form of disease; the localization of a pre-existing dyscrasia; it signifies some inexplicable error of nutrition in the part which they affect.

We are however aware that high authority, no less than that of Prof. Virchow, regards cancer as, at first, a purely local disease, must have had a local cause, and assumes that at the point of disease certain conditions of debility exist. It is not a violent assumption, therefore, to premise that the remote cause is heredity, conferring a constitutional proclivity; the proximate, exciting local cause can almost always be distinctly attributed to some remembered blow, injury or some source of persistent irritation, as in the case related, of the part which becomes the seat of the growth, in consequence of which epithelial cell genesis take place in an excessive degree.

In their normal condition the cells of the deepest layers of the corneal epithelium, when isolated, always appear rough, owing to the detachment of their serrated edges from those of the neighboring cells. This peripheral structure endows them with the capacity of articulating suture-like with the adjacent cells, and thereby producing an exceedingly firm connection of the

cells among each other. Even cells apparently in contact are furnished with an intermediate intercellular material by which they are cemented together. Stricker states, "The cement is to be regarded as proceeding from the metamorphosis of the cell substance, and is therefore included in the series of intercellular substances. Cells may either present flat surfaces in apposition to each other, or they may present small processes, dentations or strike, by means of which they cling to one another like the bristles of a brush. They may also become attached to one another partly by means of flat surfaces, and partly through the intercalation of the processes. Inasmuch as the cement is included in the series of intercellular substances, it must be admitted that there is no fundamental morphological difference between the material connecting epithelial cells, endothelial cells and the cells of the connective tissues; in all these we have to do with metamorphosed cell substance, by means of which the morphological elements are united."

As indispensable factors in the production of epithelial cancer, we have indicated constitutional predisposition (inherited diathesis), or developed tendency. Supplemented by local aptness, and in consequence of the latter, local irritation, arising from various causes—usually of an inflammatory character—is capable of awakening into *manifest* existence the cancerous diathesis; in virtue of which the generation of epithelial cells is determined to an enormous degree, far exceeding exuviation; and through the peculiarities of each individual cell and its inherent capability of coherence with those adjacent, aggregation results; also epithelial cells, assuming the form of cones, strike deep into the connective tissue on which the epithelium rests, and then penetrate deeper and deeper into the interspaces of the same, multiplying and supplanting as they invade. Such is the mechanism in accordance with which a focus of epithelial neoplasm is elaborated. Its extension laterally is determined by the apposition of young and small cells at its periphery in the same manner as is pursued in the growth of normal epithelium, its progress being more rapid in that direction, whence the least resistance is presented. It may extend also by new foci constantly forming in the immediate vicinity of the original site, each subsequently in its history following the same laws of growth as just indicated. These elements of growth therefore condition depth and area.

The probability is rapidly maturing into a conviction and demonstration that, besides the local multiplication of epithelial cells and their appropriation at the periphery of the cancerous mass, the amœboid cells are themselves captured, and by a sort of infection or impregnation become amalgamated or capable of amalgamation, by virtue of contact, with the cells of the part. In respect to epithelial cancer of the cornea, such vagrant cells are at hand ready to be subjected to this transformation, being found among the anterior corneal epithelium, in the corneal tissue and between them; and in general, though the demonstration is not complete, it is far from being problematical that the amœboid cells may be destined for the regeneration of all the tissues of the animal body, or at least for supplementing deficiencies of nutrition which otherwise might exist.

Now in the case of our patient, though one of the prime factors, heredity is not demonstrated, we yet have all the other conditions favorable for the possible production of the local epithelial disease, viz: A developed proclivity preceding the conjunctivitis; the supervention of the local persistent irritation, viz: the cinder, probably in the state of ignition at the moment it impinged upon the eye, consequently destructive of the epithelium; these bringing in their train the entire series of pernicious consequences enumerated in the development of epithelial cancer.

This disease is emphatically peculiar to persons who have attained the periods of middle or advanced age, being rarely found in those under forty years of age. The preponderance of authority attests to the fact that the male sex is especially obnoxious to its visitation; but authors differ very widely respecting the comparative ratio; some declaring its frequency in the male sex at ninety per cent, while others, that it exists in equal numbers in the two sexes.

Cicatrices or parts injured or those whose natural structure has been changed by previous inflammation, seem to furnish favorable sites and conditions for the development of this disease.

SEAT.—With very rare exceptions epithelial cancer has its primary seat in or just beneath some portion of skin or mucous membrane. The various portions of the head and neck furnish the most favorite localities, e. g., lower lip, at or near the junction of the skin and mucous membrane; next in order of fre-

quency, it is found on the tongue, prepuce, scrotum, labia and nymphae, and more rarely in many other parts. Of all the several parts of the eye or its appendages, it is seen most frequently on the eyelid, conjunctiva of the globe, cornea, in the lachrymal gland and in the orbit; it very rarely attacks the interior of the eye. Wells, in his work on "Diseases of the Eye," errs in the statement that epithelial cancer does not occur as a primary affection in the conjunctiva; for the case related disproves it. It is, however, true that when found upon the globe, it, in most cases, has extended thither from the eyelid, to which site the disease in turn may have spread from the cheeks, forehead or nose.

TREATMENT.—The period when reliance upon *specifics* addressed to the system, or locally, prevailed, has passed away; the most potent specific is the knife; even this is not infallible, for after appeal is made to this *dernier resort*, the cancer commonly recurs after periods varying in length, and undergoing metastasis, establishes its malignant and incurable character. When, from its form, extent or situation it is probable that the entire neoplasm *can* be removed, extirpation is undoubtedly the mode to be pursued. Should a local relapse occur, it does not prevent a second or even a third removal. Its destruction by caustics e.g., potassa tusa, acid nitrate of mercury, chloride of zinc, galvano-cautery, arg. nit. may in some instances be the preferable mode, perhaps the only method practicable. Sanson narrates a case situated above the right eyelid successfully treated by a lotion of carbolic acid, in the proportion of one part to a thousand, from which there resulted complete cicatrization in twelve days. Preservation of life or its prolongation is the great end and object of surgical interposition. The deductions from reliable statistics prove its great utility. Paget records a list of *fifty-eight* cases of epithelial cancer made the subject of observation in this regard. Of these thirty-five received operation, and twenty-three, without active interference, passed to their termination, death; on an average thirty months of life were added to those upon whom operations for removal had been performed. He also adds if the patient remains for eighteen months after the operation for removal, exempt from a recurrence of the disease, it is probable that the immunity will continue for *five* years. Measured by this standard our patient with some confidence may yet expect an extension of twelve months, at least, and a corresponding addition to his lease of life.

ARTICLE XVIII.

CONDENSED AND RAREFIED AIR. By WM. PORTER, M. D., of St. Louis.

The beneficial effect of a therapeutical agent can often be estimated by studying its physiological action. A remedy that is used only empirically must necessarily fail in many instances, either from ignorance of its adaptability or on account of its improper application. For this cause, respiration of air of increased or diminished density is not as universally recommended by physicians as it should be. A consideration of the effect of these forces in the healthy subject may in some degree guide us in applying them in disease.

It must first be remembered that condensed air and rarefied air are in many respects antagonistic in their action and in the indications for their use, and that they cannot be prescribed indiscriminately any more than we can advise the mountains of Colorado and the low level of the sea-coast for the same patient. It is not every case in which both condensed and rarefied air may be used to advantage. It is somewhat natural for us to study in order (1) the physical changes produced by the inhalation of condensed air, then (2) the effects of expiring into condensed air and afterward (3) the inhalation of and (4) the expiration with rarefied air.

(1) *a.* One of the primary effects of inspiring air of increased density is to augment the vital capacity by direct pressure from within. This mechanical action reaches the remotest air vesicles, distending them in direct proportion to the amount of compression. Suppose that each lung is a pyramid 12 inches high and 3x6 inches at the base, we will have, excluding the lateral adjoining surfaces, the surface of the lungs in juxtaposition to the chest wall equal to 180 square inches. If 30 pounds be placed on the inner cylinder of a Waldenburg's apparatus 12 inches in diameter, the force exerted will be nearly one-fourth of a pound pressure to the square inch, and when applied to the 180 square inches, the approximate lung surface, equals a force of 45 pounds applied directly to the expansion of the chest.

This pressure, easily borne by most adults, may be increased in time with some patients 50 or even 100 per cent., and affects the expansion of the chest most directly.

c. The inhalation of condensed air has a distinct action on pulmonary circulation. If we approximate the surface of the bronchial tubes and air vesicles to aggregate a square of three feet (a low estimate) and apply to this the force above mentioned—one fourth of a pound to the square inch—there will be an actual force exerted in all directions in the lungs of 324 pounds. This pressure on the the veins ramifying on the bronchial mucous membrane and on the intra-vesicular plexus, hastens the out-going blood, and, by supporting distended vessels, is an aid to a freer circulation in the lungs.

d. From the preceding facts the influence of this agent upon the heart's action may be understood. The pressure on the pulmonary venous system causes the blood to be passed rapidly to the left side of the heart. The arteries of the general circulation are distended and the pulse becomes hard, full, and in a short time slower.

e. During the inhalation of condensed air, the blood absorbs more than the ordinary amount of oxygen, for the law of Henry and Dalton applies, viz: "that the volume of gas absorbed by a liquid depends upon the pressure under which the gas above it remains after the absorption has been completed," and in the case of mixed gases the proportion is determined by the tension of each individual gas. On the other hand, however, the elimination of carbonic acid gas is retarded, for as gases are diffusable in an inverse ratio to the square of their densities, the quantity of carbonic acid gas passing from the blood in the air cells depends upon the tension of the atmosphere in these cells.

2. Expiration into condensed air requiring unusual efforts of the muscles of inspiration tends to strengthen them. The effect upon the circulation and the interchange of gases are of the same character as result when condensed air is inhaled.

The main physiological effects, therefore, produced by the respiration of condensed air, which may have a therapeutical value are, increase of vital capacity, strengthening of the muscles of expiration, diminution of the amount of blood in the lungs, increased pressure in the general arterial system, increased aeration of the blood, yet possibly an accumulation of carbonic

acid at the same time. When patients are placed in a chamber of condensed air the respiration is impeded and a sense of weight felt in the chest.* The pressure on the surface of the body being increased we have this phenomenon. The blood is forced into the left side of the heart as when the condensed air is respired, but opposed to this is the pressure on the greater surface of the body; the circulation in fact is carried on in a denser medium, requires more heart force, and this not being readily furnished at first, the pulse becomes less in volume and force and more frequent. After remaining in the air chamber for awhile the heart action may become more natural. I believe that in many instances there may be positive injury done from the accumulation of carbonic acid in the blood, the elimination of which is seriously interfered with under these circumstances according to the physiological rule mentioned.

(3). The inhalation of rarefied air has in many ways an opposite effect from that produced by condensed air; (*a*) the muscles of inspiration are strengthened inasmuch as the atmospheric pressure in the lungs is lessened, while that on the surface of the chest remains the same; (*b*) there is a greater determination of blood to the lungs from relaxation of the tension in the tubes and air vesicles; (*c*) the heart action becomes more soft, gentle, and sometimes more rapid, because the pressure of the blood passing from the lungs through the left heart is diminished; (*d*) elimination of carbonic acid gas is favored on account of the diminished density and tension of the inspired air, in accordance with the laws already mentioned. This is one of the factors, no doubt, which makes altitude a disideratum in many cases of phthisis.

(4). Exhalation into rarefied air causes the lung to contract to a degree corresponding to the amount of rarefaction, and thus increase the working capacity by diminishing the amount of residual air. By this and the rapid elimination of the carbonic acid gas additional activity and power is shown in the respiratory function. The effect upon the circulation is much the same as that produced by the inhalation of rarefied air. It follows that an agent having so much physiological force must have therapeutic

* Bauer, Bridge Cases, *St. Louis Medical and Surgical Journal*, 1870; Jaminet, *Physiological Effect of Compressed Air*, 1871.

tical value when rightly applied. There are several conditions in which the pneumatic apparatus may be used with good effect, and often as a powerful adjuvant to medicine proper.

1. All physicians practically recognize the pre-tubercular condition, though unfortunately recognition is not always followed by the urgent care needed. In young persons with a strumous taint, fickle appetite, anemia, a tendency to bronchial irritation, who have flat and it may be narrow chests and limited respiratory movement, it is more than possible that phthisis will sooner or later be developed, especially in those of sedentary habits who are disinclined to out-door exercise. The lungs do not expand sufficiently, there is imperfect aërication of blood and many of the products are retained; mal-assimilation of food follows, the formative material loses its vitality, and this deposited in portions of the lung in which movement is feeble and to which the air does not penetrate, as at the apices, ushers in the pulmonary disease.

The direction in all of these cases must be in the way of nutrition, but this cannot be pursued to advantage so long as the blood is imperfectly oxygenated, which can be effected only when the air penetrates the entire lung. If any portion is cut off from the ingress of the air, the blood sent to that part returns to the general circulation, carrying with it not the much needed oxygen, but carbonic acid and other products of waste. Here the use of the pneumatic apparatus adds much to the time honored treatment of tonics and nutrients. I know more than one instance where a patient has not been able to take cod-liver oil until an increase in the vital capacity and an increased supply of oxygen has created a demand for such food.

The direct effect of the inhalation of condensed air in these cases is to increase the vital capacity by direct pressure from within. The amount of pressure at first must be small—not more than one-fifth of a pound to the square inch. Great harm may be and is undoubtedly done by using too much force, for nothing should be more guarded against than rude measures with a lung, some portion of which may be weak and comparatively inactive, for the air penetrates with more or less dilating power to every accessible part. The pressure may be gradually increased to twice or three times the original amount, or even more.

A greater amount of oxygen is furnished to the blood (Sec. I a) and this meets an indication almost always present in early

phthisis. For this reason a man who has been respiring condensed air can afterwards suspend respiration for a much longer time than he otherwise could, as has been noted in the experience of deep-sea divers. (Brunel.) In these cases the inhalation of condensed air may also be interchanged with the use of rarefied air, as this also increases the vital capacity which is the main indication to be fulfilled.

II. Where phthisis is advanced to such a degree that the evidences of deposits are unmistakable in the lung, it is unlikely that the use of condensed air can be attended with good result, for obvious reasons. On the contrary, rarefied air may often be used effectively (*a*) by calling into action and increasing the force of the auxiliary muscles of inspiration, (*b*) diminishing the abnormal amount of residual air in parts of the lung comparatively unaffected, (*c*) favoring expectoration, (*d*) favoring the elimination of carbonic acid gas, (*e*) reducing the force of the pulse and (*f*) inviting a full and free supply of blood to the lungs; this latter result being a factor in the process of nutrition, but not necessarily a pathological condition, as in inflammation, is important. The process of cheesy metamorphosis is characterized by a gradual cutting off of the circulation in the infiltrated mass, a consequent absorption of its watery constituents. So long as the blood supply is copious, not only is the change retarded, but the obvious effects of local nutrition are often seen in the lung. This is one of the benefits patients often derive in high altitudes. It is well known that patients with mitral disease of the heart rarely, if ever, become victims of phthisis, and I believe it may be accounted for by the increased amount of blood in the lung preventing dry metamorphosis. I have notes of one case of infiltration at the left apex, in which, subsequently to a severe attack of rheumatism resulting in mitral insufficiency, the pulmonary disease was stayed and eventually disappeared. From these premises it is fair to conclude theoretically what has been practically proven, that the continued use of rarefied air is indicated in many cases of pronounced or threatened phthisis. We must except, however, those cases having increased bronchial secretion, on account of the increased dilatation of the vessels of the mucous membrane which removal of part of the atmospheric pressure may increase.

III. In the treatment of asthma, condensed air has been much used, and, doubtless, much abused. The essential element of

asthma is found in spasm of the smaller bronchi, though Wintrich and others hold that it depends on tonic spasmodic contraction of the diaphragm. It is associated with bronchial fluxion, though, in some cases, the congestion cannot be pointed out on account of the absence of bronchial secretion. Storck has shown by tracheoscopic examination, that bronchial congestion may exist where the physical signs of it are absent. That upon which the bronchial spasm depends, may be *direct* irritation of the vagus, *reflex* from the stomach, uterus, pharynx, etc., or it may depend on *specific* causes, as the inhalation of certain animal or vegetable emanations, or on *hæmic* conditions, when the blood contains irritating qualities, as in gout or Bright's disease. The latter condition, I believe, often causes a spasmodic contraction of the pulmonary arterioles—so that it is a want of blood, rather than of oxygen, in the lungs, that causes the distress. In these cases, many of the physical signs of asthma are wanting.

From whatever cause asthma is produced, excepting, possibly, the last named one, there is tumefaction of the bronchial mucous membrane (such, for instance, as may occur in the nasal passages, from acute irritation), and spasmodic contraction of the bronchial muscles. While the larger bronchi have cartilages to keep them open, the smaller tubes have only a muscular structure. Gratiolet and Reisseissen have found muscular fibres around tubes of less than a line in diameter, Rindfleisch demonstrated their sphincter form where the bronchioles merge into the infundibula, and Williams has shown the contractibility of these fibres under electrical and chemical stimuli. Bert, Traube and others, have proven that respiration can be arrested by irritation of the pneumogastric and laryngeal nerves, and Valentine and Volkmann, by irritation of these nerves, produced apposition of the cartilaginous rings in the bronchi. The little muscles which guard the entrance to 600,000,000 air cells (Rochoux), are, unitedly, more powerful than the indirect force of the muscles of inspiration. If, then, without further discussion, we grant that to which the weight of authority testifies, viz.: the existence, as prominent factors in asthma, both of bronchial fluxion and muscular spasmodic contraction, we naturally conclude that one of the first things to be done is to relieve the engorgement of the mucous membrane, and overcome the bronchial spasm, and it is to meet these indications that condensed air is used.

It is always necessary first to find the cause of the asthmatic condition. The source of reflex irritability must be removed; irritating matter in the blood must be eliminated, if possible, and proper medication employed where the disease is purely bronchial. Then, but not before, condensed air may be employed. A case in point is that of a gentleman of this city, who used the pneumatic apparatus for asthma, under the direction of a most careful physician, but without effect, until some months after, when several large nasal polypi were removed; then, by the use of the condensed air, his disease disappeared.

After the first inhalation of condensed air in asthma, unless the pressure is exceedingly light, the symptoms are usually aggravated, and some perseverance is needed before there is much amelioration. The first subjective evidence of benefit, is a shortening of the time required for the respiratory act, which becomes more nearly normal, and a relief from the sense of chest constriction; on auscultation the vesicular murmur will be found to be stronger, and the sibilent râles and ronchi will gradually disappear. In some of these cases where the expiration is greatly hindered and there is emphysema, I have, at first, had the patient expire into rarefied air, thus rendering the expiration more full; and again, after using the condensed air for a few minutes, returned to the rarefied, so that the lungs might be freed from as much residual air as possible.

The method of inhalation is important. Beginning with light pressure and few respirations, for it is of much moment not to excite muscular contraction, the pressure may be increased, and the time of inhalation lengthened. To obtain the full effects of the air a pause of from five to ten seconds should be made after respiration, before the expiratory act begins. After the patient is accustomed to the light weight, forty pounds may be placed on the Waldenburg apparatus, equal to about one-half pound pressure to the square inch, and the patient may inhale, at short intervals, the air thus condensed, for from twenty to thirty minutes, once or twice daily. The frequency and length of the exercise must depend upon the indications in each case.

IV. Pulmonary emphysema often accompanies asthma, and has much in common with it. Very briefly we may note that there is deficient expiration, that this may depend on an interference to the egress of air and violent muscular compression of the

chest wall, on lesions of nutrition by which the pulmonary parenchyma suffers textural changes especially in old age, or there may a part of the lung become impermeable to air, necessitating vicarious action on and undue distension of other parts, and from each of these causes or all combined, we may have atrophy, distension and finally rupture of the alveolar walls. Not only is the power of expiration thus limited, and the amount of residual air increased, but this destruction of the alveolar walls where the interchanges of gases is affected, or there may be only an obliteration of the blood vessels on the walls. The result is that the oxygen supply is diminished and elimination of carbonic acid gas retarded. The disturbance of the pulmonary circulation, in many cases reflected through the pulmonary artery, causes hypertrophy of the right ventricle; following this and the incomplete decarbonization of the blood, we have mal-nutrition (Hertz) and diminished specific gravity of the body (Walsh). It is scarcely necessary to mention the physical symptoms and diagnosis of emphysema here.

If then the conditions resulting from emphysema are loss of expiratory power, increase of residual air, retarded elimination of carbonic acid gas, and disturbance of pulmonary circulation, we can reasonably expect benefit from the use of the pneumatic apparatus. It may not, however, be used indiscriminately. Where there is much bronchial in open and pulmonary engorgement, condensed air to a limited extent, for reasons already given, is indicated, but it must not be pushed too far, for the air cells are already distended and unduly filled with air. In such cases condensed and rarefied air may be used alternately, and the rarefied air last, so as to empty the air cells as far as possible. Where bronchial complications are not marked, the best results may be obtained by the rarefied air alone. Often after the first exercise the patient is somewhat relieved and the respirations become longer and more free. As many of the vessels are merely distended and not as yet ruptured, it is quite possible that their functional activity may be restored by removing the tension of contained air and assisting the nutrition by encouraging a better blood supply. The less dense air does much also in enabling a better elimination of carbonic acid gas. In extreme cases of emphysema, no agent that I have knowledge of is so quickly efficacious as is rarefied air.

In accordance with facts already stated, we may assert.

that the pneumatic apparatus may also be used with benefit in bronchitis, atelectasis, and in some forms of heart disease, such as dilatation of the right ventricle and mitral insufficiency. The result of treatment warrants this assertion, though in cardiac complications this measure is, as all others are, palliative. However, the use of condensed and rarefied air, when employed in accordance with known physiological laws, is a safe and efficient aid to medicinal remedies in many troublesome pulmonary complications, some of which have been enumerated.

500 NORTH 14TH STREET.

ARTICLE XIX.

RESECTION FOR TRAUMATISM. By H. H. MUDD, M. D., of St. Louis.

The three cases here recited, seem to me worthy of consideration, as they add something to the meagre statistics of results obtained by resection of joints for recent injuries.

I saw, July 12th, 1874, at the request of Dr. L. S. Reber, Mrs. E. P—, aged 44 years, who had fallen from a wagon onto a newly macadamized street. The left foot, while inverted, sustained the weight of the body in the fall, and the astragalus was crushed by the tibia. The external malleolus was broken off, and the end of the fibula protruded through the external wound, which, beginning an inch and a-half above the malleolus, extended downwards and backwards from the anterior border of the fibula. The extent of the injury to the bones necessitated operative interference, and it was thought best by Drs. Reber, Love and myself, to resect.

The wound was extended by incision downward over the malleolus and outer surface of the calcaneum toward the sole of the foot. The fragments of the astragalus were then removed, and the foot strongly inverted so that the extremity of the tibia was turned out. A thin section of the tibia, with internal malleolus, was removed by the saw. No incision was made on the

inner surface of the ankle, but the peronei tendons were cut. The foot being put into position, was maintained by a plaster splint padded with cotton placed on inside of the leg, and extending from knee to foot, and passing under the foot, and then over the instep—the whole secured by roller.

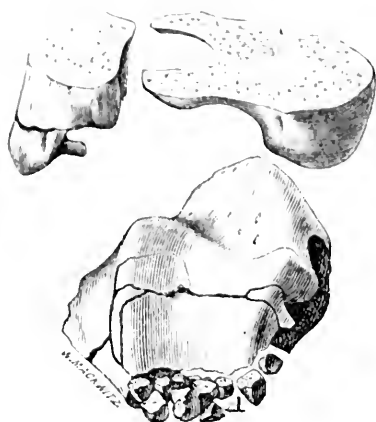


Fig. 1 represents section of the tibia and fibula by saw. B. line of fracture of the external malleolus. A. the astragalus, showing some of the lines of fracture. (From nature.)

JULY 14th.—I saw patient again to day, with Dr. Reber, and find that she has no fever or pain; appetite is good, and there is no swelling. The layers of bandage covering the wound were removed, and the inner dressings were found to be moistened by serum from the wound.

JULY 17th.—Dr. Reber reports patient as doing well. She has no fever; there is very little swelling, and no pus, though the serum still oozes from the wound.

AUGUST 16th. There remains a superficial wound one-quarter inch wide, and one and one-quarter inches long. No sinuses perceptible, and no thickening about the joint. Dr. Reber says that, at no time, has there been more than one dram of sero-purulent fluid discharged in twenty-four hours. The foot is in good position, and moderately firm.

SEPTEMBER 14th.—Wound entirely healed; some motion at the ankle.

AUGUST, 1878.—I find that the woman walks now without

support to the ankle; has no pain; there is slight motion at ankle, and the foot is perfect except in length and motion.

The wound when first made, was washed with water simply, later, a greased rag was applied.

H. S—, aged 20, was injured on the 23d of July, 1875, by a brick machine, which crushed the elbow, and broke both bones of the right forearm. Upon examination I found that there was an extensive lacerated wound, both on the inner and the outer aspect of the joint, which communicated freely with the shattered joint. There was, also, on the palmar surface of the forearm, near its middle, a wound which communicated with a fracture of the shaft of the radius and ulna. The soft parts of the upper half of the forearm, were much contused and dissected from the bones, so that there was free communication between the elbow and the site of the fracture in the forearm.

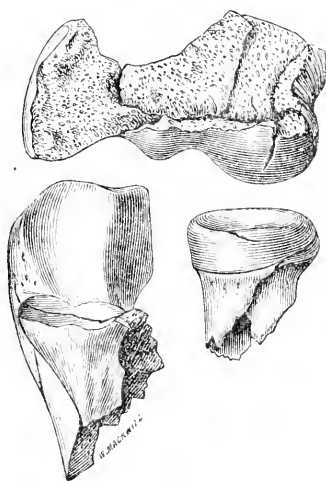


Fig. 2.—The portion of ulna removed was in three pieces; that of the humerus in six. Portions removed are shown in cut. (From nature.)

Evidences of the contusion on the skin, extended as low as the wrist and hand. Hemorrhage had been profuse, and the patient, although an active, muscular man, was much prostrated and exhausted.

Somewhat influenced by the earnest solicitations of the patient, I determined to try and save the arm.

The patient was anesthetized and I found that the head of the radius and the olecranon and coronoid processes were detached and loose, as also the radial eminence of the articular surface of the humerus. These were removed, and I then removed with the bone nippers the trochlear surface of the humerus. Then smoothed off the ends of the ulna and radius with the bone nippers, and after flexing the arm and adjusting the angular displacement of the fracture in the forearm, it was laid on a pillow, the wound having been washed with a twenty grain solution of chloride of zinc. Cloths saturated in dilute alcohol were used as dressing.

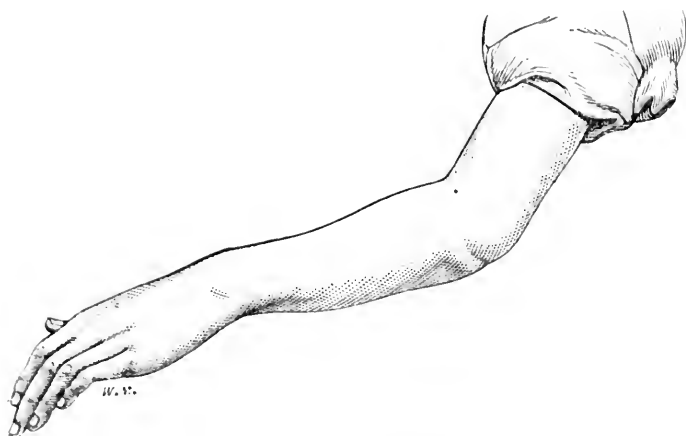


Fig. 3.—(From photograph.)

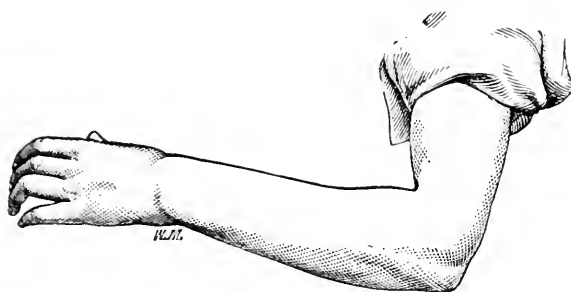


Fig. 4.—From photograph.

JULY 29th.—The patient is doing remarkably well. Tongue is clean; appetite good; sleeps well and has little or no fever.

No pus as yet, there being only a slight serous discharge.

JULY 30th.—Evacuated by incision a small quantity of pus which had collected about the lower extremity of humerus.

AUG. 1st.—Patient suffered severely with neuralgic pains in the hand for several hours during the night.

AUG. 5th.—Arm was placed in Hodgen's suspension splint for the arm.

AUG. 13th. Swelling steadily subsided. There has been but little suppurative action, and the arm is improving rapidly.

The patient required no attention after Sept. 20th, 1875.

In September, 1876, the arm moved through an arch of about twenty degrees, making an angle of from 80 to 100 degrees. He has good strength in it and does full days' work as fireman for engine. Photograph taken in summer of 1878, and shows the limits of extension and flexion. He uses the arm with freedom.

I saw, April 12th, 1878, with Dr. Clopton, E. N—, aged 39, who had been injured by railroad train on the 11th inst.

His left leg suffered severe contusion with compound fracture of both bones in middle third, and was greatly distended by hemorrhage and serous effusion. There was also a compound comminuted fracture of the condyles of the humerus. The fragments of the humerus were so small, so much displaced, and the destruction of the condyles so extensive that, the joint being opened, it was deemed best to resect. An incision was made along posterior and outer border of arm and the fragments comprising two inches of the lower end of humerus were removed, the end of the humerus smoothed off by bone nippers, and then having removed also the end of the olecranon process, the arm was placed at right angles, the bones approximated, and a plaster bandage applied with an opening for drainage. An alcoholic dressing was used. There was but little inflammation about the elbow. Several small spicula of bone excited circumscribed inflammation, which quickly subsided after their removal. The wound of resection on outer, posterior aspect of arm healed rapidly and was soundly healed on the 18th of June.

The injury to the leg was a serious one, the skin at site of contusion sloughed to about two-thirds extent of circumference of leg. The discharge was profuse and swelling great during first week or two, but this subsided, and throughout the entire

subsequent treatment the inflammatory action was extremely limited and the suppuration slight considering the extent of tissue involved and the presence of necrosed bone. The tibia at this time is still ununited.

There is no inflammatory thickening about the elbow, and the motion of the joint is free. It may be that the motion is too marked, but I think we may safely assert that it will be a very useful arm—as good if not better than one stiff at the elbow.

REMARKS.—We have here the history of two complete resections—one of the elbow and one of the ankle, and one incomplete of the elbow.

The one of the ankle made rapid recovery, the wound being superficial in a month and entirely healed in less than two months. There is slight motion at site of joint, but leg is strong and patient able to attend to household work and walk without support.

The other complete resection was of elbow, and was complicated by lacerated and contused wound of forearm with compound fracture of shafts of both bones, but it healed with but little constitutional disturbance, and within two months was dismissed as needing no further treatment. In a few months after injury he was able to go to work, and now he has good strength, with movement of extension and flexion through arch of more than twenty degrees.

In the third and last case the resection was partial of the elbow, the patient at the same time suffering a complicated fracture of leg. The injury of soft part of leg much greater than that to arm, but the comminution of bone much more extensive at the elbow than in the leg.

The wound of resection was healed in a little more than two months, and with but very little suppuration, and no inflammatory deposit about the joint. The leg is still ununited, with dead bone in it. The leg has done quite as well as could have been expected, considering the extent of bone exposed, and the great destruction of the soft parts. It is too early yet to determine just how useful the arm will be. I think we might have succeeded in obtaining a stiff arm without resection, but it would have been at the expense of months of suffering, of suppuration and of drain upon a subject suffering with compound fracture of the leg.

In these cases the recovery was prompt. The progress of the cases was accompanied by very slight constitutional disturbance. The drain upon the system was not appreciated, and the recovery strongly contrasted with those fractures into joints in which we wait for the slow separation of necrosed bone. The contrast is marked in point of time, of suffering, of waste of tissue, and of inflammatory changes about joint, and in two of the cases at least the result is a more useful limb than would have been obtained by best results of expectant treatment. But I do not desire to contrast it with the expectant method of treatment for the purpose of setting resection in opposition with the more conservative method of treatment. It is only to make clear the advisability of clean and perfect resections in certain cases of which these are a type, that I speak in this connection of the expectant method.

It seems to me that where a short bone, in articulation with a long one, is crushed, or where the end of a long bone at articular extremity is comminuted by a crushing injury, that it is better to make a clean even end by resection, but where (and this is the most frequent injury) we have a compound fracture at joint, with protrusion of the long bone, the result of indirect violence, the impossibility of determining the extent of possible or probable necrosis, renders the expectant treatment the only justifiable one where we design to save the limb.

It must certainly be admitted that we can save many limbs by resection that must otherwise be amputated, and I believe that with every advance we make in controlling the progress of a wound the value of resection will be still more evident. The drain upon the system from resection is not as great as it is with necrosed bone, irritating the tissues about the joints while awaiting the slow process of separation.

It is as a conservative operation and as opposed to amputation that these resections for traumatism should be classed. Many fractures into joints result in amputation that should be saved. Months, yes, a year or more, is often well spent when it saves a useful though deformed limb.

Translations from the German.

A CASE OF COMPLETE OBLITERATION OF THE INNOMINATE ARTERY;
ALMOST COMPLETE OBLITERATION OF THE LEFT CAROTID AND
SUBCLAVIAN ARTERIES, COMPLICATED WITH ANEURISM OF THE
AORTA, AND CARCINOMA OF THE OESOPHAGUS. [Translated for
THE JOURNAL by F. J. LETZ, M. D., of St. Louis.]

In a late number of *Virchow's Archiv*, Dr. P. Preisendoerfer, Assistant Physician to the Citizens' Hospital at Cologne, chronicles the following rare and interesting case:

About the middle of April, 1877, a man 45 years of age, presented himself at the hospital, who complained of difficulty in deglutition, which had gradually increased for the last three months. Whilst liquid nourishment was, as yet, swallowed with comparative ease, solid articles of food passed but half ways down. There were frequent eructations and vomiting. Patient claims to have fallen away considerably. Besides this, he complains of more or less cough since his sickness first began; otherwise he has always enjoyed good health.

On the day of his admission, these were the objective symptoms: Cachectic appearance; pale skin; the sub-cutaneous adipose tissue very scanty; muscles atrophied; no cyanosis. With the exception of a slight asymmetry in the two halves of the thyroid cartilage, there is nothing abnormal about the neck. The results of a laryngoscopical examination are negative; especially are there no anomalies of motion of the vocal chords, either during phonation or respiration. Breathing somewhat accelerated (30 p. m.), but no dyspnoea. The junction of the manubrium with the body of the sternum, forms a slightly projecting angle. Excepting a slight difference in the apices, affecting the right side anteriorly to the second rib and posteriorly to the spine of the scapula, there is no change in the lungs. The respiratory sounds, vesicular; only in the apex of the right side there is indistinct inspiration, bronchial expiration, with a few rales. The cardiac impulse can neither be seen nor felt, but over the sternum a tremor, synchronous with the action of the heart, is detected by palpation. On percussion, the manubrium yields a moderately dull sound, which extends on both sides to the insertion of the ribs. Absolute dullness is not demonstrable over the region of the heart, but the percussion sound becomes shorter below the fourth rib to the left of the sternum. Auscultation reveals two dull sounds at the normal site of the cardiac impulse; at the tricuspid, a dull first sound, followed immediately

by a soft blowing murmur, and then a second sound, are heard. This murmur can be traced along the whole surface of the sternum; it reaches its greatest intensity about a finger's width below the juncture of the body of the sternum; it becomes weaker towards the pulmonary artery, and cannot be distinctly heard over the aorta. *The pulse of both carotids is hardly perceptible.* At the carotid, two short, soft sounds are audible. The murmur mentioned above, can be traced along the left carotid; over the right it is audible, only over the very first portion. *The radial pulse is exceedingly weak, almost imperceptible on both sides.* The curve of the radial pulse, which Mr. Riegel traced with Marey's sphygmograph, represents an almost straight line, near the middle of which a slight elevation can be seen. On the other hand, *the pulse of the femoral is very strong*, a little stronger on the right side than on the left; there is, however, perfect synchrony of both pulses.

No demonstrable changes in any of the abdominal organs; especially no enlargement whatsoever of the liver. The sound enters the œsophagus (counting from the beginning of the cavity of the mouth) 36 cm., and there meets an impassible obstruction. Temperature normal; sputa, mucus, scanty; urine, acid, specific gravity 1023; no albumen or sugar.

The subsequent course of this case was briefly as follows: the symptoms above described remained unchanged during the subsequent time:

MAY 4th.—Patient complained of greater pains in right lower half of the thorax; at the same time a moderate elevation of temperature occurred. An examination revealed slight dullness on percussion, from the right lower border of the scapula downwards to the base of the lung, with weak indistinct respiratory murmur, and fine, moist râles. No enlargement of the spleen.

MAY 16th.—The temperature was again normal; the dullness also disappeared again. The patient, however, grew leaner every day.

JULY 9t.—He weighed only 39 kilos; owing to the obstruction in the œsophagus, he could only take liquid ingesta, and towards the end, even these were regurgitated. He was, therefore, fed by the Lube meat pancreas enemata (300.0 meat, 100.0 pancreas). These enemata usually remained with him from evening till the next morning, and sometimes even till noon. Their effect was very happy.

JULY 25th.—His weight has risen to 40 kilos, and for the greater part of the day he could leave his bed and walk about. Gradually he could again swallow more consistent articles of food in small quantities.

In the beginning of October a stronger cough again set in; expectoration became more profuse; his sputa soon assumed a purulent character; it had a very fœtid odor, and was of an acid reaction. The lowest stratum was almost pure pus. There

was no appreciable dullness over any part of the lungs, with the exception of that already mentioned above as existing over the right apex. Auscultation revealed numerous rhonchi scattered over both lungs. The temperature, which was hitherto normal, was again slightly increased.

OCTOBER 16th.—The smell of the medicines could be distinctly recognized in the sputum. The microscope revealed pus cells, mucus, detritus and a few muscular fibres, but no other elements which might have been of importance in the diagnosis.

Patient gradually sank, and died October 17th, with symptoms of oedema of the lungs.

At the post mortem examination, twenty-four hours after death, the following was seen: Subject extremely emaciated; no rigor mortis; a few ecchymotic patches only on the back. The greatest concavity of the diaphragm extends from the upper border of the sixth rib on the right side to the fifth rib on the left. On opening the thoracic cavity the lungs scarcely retract. On opening the pericardium, a large sacculated tumor is seen over the origin of the aorta, with longitudinal folds on its surface; its entire length from the origin of the aorta is 15. cm.; its transverse diameter is 11. cm. The sac is perfectly empty and very much corrugated. From its upper border the trunk of the innominate arises on the right side; it measures 3. cm. in length. Below the point of its bifurcation, its transverse diameter is 1.5 cm.; the right carotid measures 0.7 cm., and the right subclavian 0.9 cm. The diameter of the left carotid is 0.8 cm.; that of the left subclavian 0.9 cm. The larynx and thoracic viscera were removed in toto. The surface of the left lung was adherent to the second rib by a firm band, and on its posterior surface to the costal pleura. The right costal pleura was very much injected, and was adherent to the pulmonary pleura in several places by loose adhesions. On opening the oesophagus a large ulcerated surface, covering the entire wall, is seen about opposite the bifurcation of the trachea. On the right side, posteriorly, this ulcerated surface is formed by infiltrated lung tissue, of a motley dark gray appearance, which passes into the ulcerated and infiltrated tissue of the oesophagus without any sharp border. The greatest length of the ulcerated surface is 8.5 cm.; its greatest length 8. cm. That portion of the lung tissue which enters into the formation of the ulcer measures about 6. cm. This whole part of the oesophagus is of a motley gray color; its surface is irregular; the whole wall, and especially towards the edges, feels hard to the touch. The tissue proper is very much thickened, hard, and its cut surface of a grayish white color. The larynx and trachea present no changes worthy of notice. The heart is flabby; the ventricles not dilated; the walls are not hypertrophied. The valves are unchanged; only on the nodule of the aortic valves there are a few calcareous layers. The whole ascending aorta and the arch is a large aneurismal

sac, the walls of which are very uneven on their inner surface, with numerous calcareous plates; near the origin of the larger vessels the walls are very much thickened. From the aorta a probe cannot be passed through the innominate; an opening is nowhere visible. Where the left carotid and subclavian are given off, two small openings about the size of a pin's head and through which only a small probe can be passed, are seen. Looking from above downwards, the plates, arranged in layers, can be seen, obstructing the opening of the vessels at their origin.

The right lung is very large; its edges are emphysematous; in the upper lobe, there is a small irregular cavity, filled with shreddy material. On section several projecting white nodules about the size of a pin's head, and several nodes which have undergone calcareous degeneration are visible. That portion of the lung which forms a part of the ulcer described above, has also undergone slaty induration; 4. cm. below the bifurcation, a medium sized bronchus can be traced to the ulcer, *i. e.*, into the œsophagus. The mucous membrane of the bronchial tubes is congested in streaks and covered with tenaceous mucus.

The left lung contains considerable air; in the upper lobe there are a few cheesy nodules, a cavity the size of a hazel nut, with slaty surroundings, and dirty, cheesy contents. Several small projecting nodules are found scattered about.

Nothing worthy of note in the other organs. Spleen of normal size, pale, but without any other change. The capsules of the kidneys slightly streaked. Liver normal; acini well marked. Stomach and intestines present nothing abnormal.

Moderate œdema of the pia mater; basilar artery of normal width. Brain substance pale; no other change. Both radial arteries run the normal course and are of the usual diameter.

REMARKS:—The post mortem revealed the simultaneous existence of three different affections: Carcinoma of the œsophagus, aneurism of the aorta and tuberculosis. The coincidence of aneurism and carcinoma is probably accidental; but whether the occurrence of aneurism and phthisis is also a matter of accident or whether the pulmonary phthisis is a secondary process, the result of the aneurism might be more difficult to determine. Stokes first called attention to the frequent complication of aneurism with phthisis pulmonalis. His observations were confirmed by other investigators.* Fuller found it to occur once in twenty cases. Hanot observed this complication sixteen times in forty-two cases; he considers compression of the pulmonary artery the cause of its frequency, whereas Habersohn attributes it to a lesion of the vagus.

Without any regard to any relation that may exist between aneurism and phthisis—a question which does not concern us here—and without mentioning the rarity of the coincidence of

* Hanot, Virchow, Hirsch, Jahresbericht, 1876, II, S. 195.

these three forms of disease, the case above detailed is of considerable interest, both from an anatomical point of view, on account of the stenosis of the three large vessels, as a so more especially on account of its diagnosis.

If we exclude the affection of the lungs, the most important objective symptoms during life were: the marked cachectic appearance, slight dullness over the manubrium; a weak murmur, audible over the whole of the sternum; considerable smallness of the pulses in the upper portion of the body, compared with those of the lower half, and finally stenosis of the œsophagus.

The marantic appearance of the patient, the stenosis of the œsophagus, the site of the stenosis at the bifurcation, and the age—all these symptoms would at once suggest *carcinoma*; but the other symptoms, the dullness over the sternum and especially the smallness of the pulses of the upper half of the body, could not be thereby explained.

Perhaps all the other symptoms might have been accounted for by a *mediastinal tumor*. What the nature of this neoplasm was, whether a lipoma, a sarcoma, a carcinoma, etc., this question was only to be considered in the second place. However, the symptoms above detailed would have indicated a malignant growth. Such a tumor, situated in the neighborhood of the large vessels compressing the œsophagus might well have given rise to such symptoms. On the other hand it appeared remarkable, aye, almost impossible, that these organs *only* should be involved by such a process, whereas others, especially the large venous and nerve trunks, the vagus, etc., should escape. The small size, and the regularity of the dullness, and the fact that it was limited to the manubrium contra-indicated a mediastinal tumor.

Besides another process was to be considered among the possibilities—*aneurism of the aorta*. By this supposition the phenomena of stenosis on the part of the larger vessels might not have been explained directly, but we could have imagined them to arise by the deposit of fibrinous layers in the aneurismal sac as in the cases reported by Kussmaul¹ and Tarsons,² or by an inflammatory process in the walls of the artery, which may lead to stenosis, as in that most unique case reported by Riegel³. This last case induced us in the beginning to entertain the idea of the possibility of such a complication. Besides, all those factors which militated against the supposition that it was a mediastinal tumor, had to be taken into consideration; especially would the recurrent nerve have been involved and other phenomena of intra-thoracic pressure would have arisen in an aneurism so large that it caused dullness anteriorly and compressed the œsophagus posteriorly. Therefore this diagnosis could not be made, as the last cause for all the pathological phenomena.

1. Kussmaul, Deutsch Klinik, 1872. 50 u. 51.

2. Tarsons, Boston Med. & Surg. Jour., June 20th, 1872.

3. Riegel, Berl. Klin. Wochenschr., 1877, No. 21.

Finally the symptoms might have been explained by a fibrinous mediastino-pericarditis. Fibrous bands, the residua of such an inflammation, could produce both the narrowing of the vessels and of the œsophagus; the dullness over the manubrium and the murmur would have been thereby explained. But the two characteristic symptoms of this form of disease, Kussmaul's paradoxical pulse, which was never observed at the femoral, and swelling of the veins of the neck during inspiration, were absent.

Taking all these points into consideration, a certain diagnosis could not be made, without supposing several processes to exist simultaneously. But even under this supposition several phenomena, such as the entire absence of the pulse in the upper half of the body, were not satisfactorily, at least, not certainly, explained. Nor did anything occur in the further progress of the case which might have assisted in forming a certain diagnosis; only the sudden expectoration of so large a quantity of pus might have led us to another supposition, namely, an *abscess* which had perforated a bronchus.

Another point must be mentioned, and that is, in spite of the great stenosis of the large vessels, no symptoms of disturbance appeared on the part of the central nervous system, nor was there greater emaciation of the upper than of the lower half of the body; nor were there disturbances of motion or of sensibility.

The *post mortem* explained all the phenomena most satisfactorily; it was shown that the almost complete absence of the pulse in the arteries of the upper half of the body was due to a most rare phenomenon, namely, the simultaneous involvement of the three large arteries, in an inflammatory process, which, by thickening the walls of the artery, had produced a complete obliteration of the innominate, an almost complete closure of the two other large vessels, although the vessels themselves had their normal width just above their origin.

According to Krause, the diameter of the normal vessels is:

Innominate.....	13.5 mm.	In our case it was.....	15.0 mm.
Right carotid.....	9.0 "	" " " "	7.0 "
Left "	8.6 "	" " " "	8.0 "
Right subclavian.....	11.3 "	" " " "	9.0 "
Left "	10.0 "	" " " "	9.0 "

As is well known, stenoses of the large vessels, may owe their origin to various causes; thus stenoses of a high degree occur in the aorta and its branches as congenital conditions. (*Vide* Virchow⁴ and Rokitsansky⁵.) They occur most usually in the region of the ductus botalli (see cases reported by Eppinger⁶). More frequently however the constriction is produced by external pressure or by the formation of thrombi internally. In a

4. Virchow über die chlorose, etc., Berlin, 1872.

5. Rokitsansky Patholog. Anat., 1856. II. S. 337.

6. Eppinger, Prague Vierteljahrsschrift Bd. 112. S. 3.

case of thrombosis of the right subclavian artery Heubner⁷ could observe the pulse of the right radial artery become gradually smaller, until it entirely disappeared in ten days. In Tarsons' case, which was produced by an injury, difficulties in deglutition and of respiration and enlargement of the right heart set in; a systolic murmur was heard at the mitral valve and the aorta. The post mortem revealed atheroma and enlargement of the aorta; an aneurism the size of a walnut was found at the top of the arch, the innominate and left subclavian were completely and the left carotid partially closed by fibrinous plugs. In the case reported by Kussmaul, the right subclavian and the left carotid were completely, and the left subclavian partially closed by thrombi, whilst the right carotid was pervious.

MELANCHOLIA CURED BY SELF CASTRATION.—R—, a laborer 33 years old, an industrious, honest man, was attacked, after the death of his wife, with deep melancholia, accompanied by frequent hallucinations of sound, which accused him of having caused the death of his consort by excessive sexual indulgence.

A year after he was first attacked, he was transferred to the asylum at Poitiers; there he was quiet and industrious, but suffered very much from his "voices," which threatened him with death by fire, and other tortures. Almost at every visit he implores the physicians to perform "that operation which alone could cure him."

This condition lasted for about six weeks, when, one day during an unguarded moment, he cut his scrotum almost entirely off, with an old, blunt knife.

Although very anæmic, the patient survived this enormous mutilation in spite of the collapse and fever which set in. As the wound healed, his physical condition improved, the hallucination entirely disappeared, and with them his insane ideas. Four months after admission, and two and a-half months after the infliction of the wound, the patient was discharged entirely well.—*Centralblatt fuer Nervenheilkunde, from Annals Medico-Physiologiques, March, 1877.* F. J. L.

CASE OF REFLEX EPILEPSY CURED BY THE REMOVAL OF THE FOREIGN BODY.—On November 16th, 1876, a splinter of steel penetrated the dorsum of the left hand, near the head of the metacarpal bone of the third finger of I. K., a locksmith. An effort was made to remove it, but owing to the close proximity

7. Heubner, Archiv, der Heilkunde, 1872, S. 165.

of the point it had to be abandoned. The little wound healed rapidly.

March 14th, 1877, about midnight, he had the first and at six o'clock the second epileptic attack. The patient was found unconscious and unable to answer the questions put to him. Pulse, respiration and heart sounds normal. About ten o'clock he became conscious and complained of a heaviness in the head. At the site of the former wound a small, black spot was discovered; an incision was made upon it and the splinter 1 cm. long and one-half mm. in width, with jagged edges and a sharp point, was extracted. Patient has not suffered from an epileptic attack since.—[*Centralblatt fuer Nervenheilkunde from Allg. Med. Central Zeitung, 1878.* F. J. L.]

Clinical Reports from Private Practice.

A CASE OF HERNIA OF THE VAGINA. By W. H. LEE, M. D., of
New London, Rolla Co., Mo.

EDITORS:—I propose reporting for your journal a case that occurred to me in December, 1876. I have never seen or read of such a case in the course of a forty year's practice. About 1 p.m., a gentleman residing about five miles south of Mexico, Andrian Co., Mo., at which point I was then residing, entered my office in haste and requested me to come immediately to see his wife. Upon inquiring as to what was the matter, he informed me that she had been delivered at 12 o'clock of a child, after about eight hours labor, and that immediately after the birth there appeared a large tumor, nearly the size of a child's head, and that the midwife, not knowing what it was, or what to do, had sent him post haste after a physician. Upon talking with the gentleman on the way to his house, I began to think that I would meet with a case of inverted uterus; and never having had such a case, I was pondering in my mind what mode I should adopt to restore the organ to its normal condition.

Upon questioning the midwife and husband they both assured me that the after-birth and tumor both came down almost immediately upon the birth of the child. I inserted my hand beneath the bed-clothes and laid it upon the tumor. It had a soft, doughy feeling, and felt nearly as large as a child's head.

The patient was about thirty-five years of age; this was her seventh child. In the last two labors preceding this one, I at-

tended her; nothing of an unusual nature occurred. She was a well developed and healthy woman, and was never more than eight or ten hours in labor. This labor had progressed with no unusual symptoms until the appearance of this tumor, which the midwife believed to be the womb.

Upon exposing the tumor to the light, as she lay upon her back in bed, I judged it to be about eight or nine inches in length, and about six inches in diameter. It was soft and doughy to the touch and easily movable. The patient was in no pain except when she attempted to move. I endeavored to explore the vagina, and found that I could insert the finger to the right of the tumor and between it and the labia pudendi, from the symphysis of the pubis to the fourchette, but could gain no entrance to the vagina to the left of the tumor. I reflected a moment and concluded that if it were an inverted uterus the finger could be passed all around the tumor. And besides this, there was no raw surface at any point from whence the placenta should have been detached, nor was there any hemorrhage. I therefore rejected the idea that it was an inverted uterus.

Whatever the character of the tumor I determined to attempt its restoration. I let the patient still maintain her position upon her back, and having oiled both of my hands thoroughly, I rested the ball of the left hand on the symphysis pubis with the fingers extending down over the tumor. I then, with the right hand, manipulated, by gently pushing upwards and backwards. Directly the tumor commenced giving way and gradually receded within the vulva. I then withdrew my hands, thinking my task accomplished, when immediately it protruded again. After letting the patient rest awhile I commenced with the same manipulations again, and again, after a few minutes, the tumor disappeared as before. But this time I followed it up with the hand inserted into the vagina, and pursued the tumor till it wholly disappeared from the touch. The case was then a plain one to me as a case of vagino-rectal hernia. I suffered the hand to remain awhile in the vagina to give it time to regain its tonicity, and thereby prevent another prolapse.

Thomas, in his work on diseases of women, in treating of prolapse of the vagina, says, when it is accompanied with hernia, it is apt to be the anterior wall. Such was the fact in this case.

I ordered the patient not to get up for three weeks, but to use the bed-pan for the purpose of emptying both the bowels and the bladder.

The left labia was very much swollen and had the appearance of being bruised, and, indeed, had formed a large part of the tumor. I ordered astringent injections, and a ground flax-seed poultice to be applied to the parts.

The contents of the tumor were doubtless a part of the colon and probably, from its firm anatomical connection with the anterior wall of the vagina, the bladder also.

The patient had a good getting-up without any difficulty of any kind occurring, and has remained in good health ever since. As this is an accident of such rare occurrence, I thought it might be of some interest to the medical profession, and contribute something to medical literature.

Correspondence.

PARIS, Aug. 1st, 1878.

EDITORS JOURNAL:—It occurs to me that when we parted company at the final meeting of the American Medical Association at Buffalo, I made a partial promise to write you a few notes from this side of the water if I found time to do so.

I have been looking at the exhibit of drugs at the Paris exhibition. I find them distributed through different groups and classes which makes it a little difficult as well as laborious to examine and compare them. There are 450 French exhibitors in the group known as "Chemical and Pharmaceutical Products." Next in number comes Spain with 126 exhibitors; then Great Britain, Ireland and Austria with 90 each; Russia, 51; Algeria, 45; United States, 43. One of our American firms makes the grandest display of any pharmaceutical exhibitor at the exhibition.

In M. Lemonnier's exhibit there are leaves and flowers remarkably well preserved. So bright do many of them seem that no change of color is apparent. In the Belgian department, however, flowers can be seen so well preserved that one can scarcely realize that they are not artificial.

Among the French Colony exhibits we noticed several drugs which seem to be peculiar to them. Among them:

Mucuna Urens.—The seeds of the plant, which is known as "asses eye bean," are used for hemorrhoids. A very high opinion regarding their efficacy prevails among the populace of French Guiana.

Anona Muricata.—The leaves are highly prized as an anti-spasmodic.

Cassia Occidentalis.—The leaves are purgative and the root diuretic. They are both widely used for these purposes. The seed, however, is more widely and more generally used. They claim that it is the best substitute for coffee known. When roasted and mixed with ground coffee in the proportion of a

seventh, or even one-sixth, it is claimed to be impossible to detect its presence either by its appearance, smell or taste. It is given alone, in the form of a "*café negro*" in malarial fever, and has quite a reputation as an emmenagogue. It is also administered in dyspepsia and asthma.

When the coffee crop is short the *café negro* is said to be resorted to as a beverage. As it is very cheap and is now being imported as an adulteration for coffee, it can be bought in both Paris and London for that purpose.

In the French Cochin China department are exhibited the edible swallow's nests. There are really some fine collections of these nests. Large numbers of these nests are gathered and sold yearly. The birds are said to keep their nests remarkably clean while living in them. Those that have been abandoned, however, are usually found to contain a considerable amount of feathers and excrementitious matter, oxyglutinated matter.

The manner of using the nests is this: They are first washed in cold water and then placed in a hot water bath for some six or eight hours. It is then ready for use and may be combined with food, beef tea, meat juice, etc., after which it must be boiled fifteen or twenty minutes.

CHINA.—There are quite a large number of drugs from China, labeled, of course, in Chinese characters. We saw a peculiar gummy or shellac-like substance which we ascertained, on persistent inquiry, to be made by putting a number of frogs in a jar containing flour and then stirring them up for some time with a sharp stick which induces a free secretion from the skin. This secretion on combining with the flour makes it sticky, after which it is made into small cakes ready to administer to the sick. I did not learn in what diseases it was most efficacious, but think I have known patients who would rather that the disease would recur than take a second dose.

UNITED STATES.—I will close my present letter by saying that it is currently admitted that the finest collection of crude drugs is exhibited by the Philadelphia College of Pharmacy. Their collection includes apparently all the drugs used in the United States. There is certainly no collection nearly so complete in the exhibition.

JAS. P. KINGSLEY.

PARIS, August 15th, 1878.

PARIS EXHIBITION OF DRUGS.—Pharmacists are very naturally attracted by the many ingenious, beautiful as well as elegant preparations presented at the Exposition. The question is asked in all seriousness whether the pharmacist will not lose his occupation in the event of popularizing the many productions, such as: Gelatine-coated and sugar-coated pills and granules, capsules, drages, wafers, pearls, elixirs, syrups, etc.

To such an extent has the so-called elegant pharmacy been carried, that all taste and odor of a number of unpleasant drugs has been covered beyond recognition and in some instances the presence of the drug itself has been detected with difficulty. I cannot but think that in elegant pharmacy, the United States is ahead of all other nations. In prescribing for patients the physicians in the United States appear to exercise much greater care in making or directing elegant preparations.

In the French exhibit there are many beautiful preparations : There are saccharated extracts for the purpose of forming syrups ; these extracts are one-half sugar ; there are also quite a number of saccharated fluid extracts. The labor of the pharmacist who uses these extracts will have his labor materially lessened, as all that will be necessary will be to dilute to form the syrups of the Codex.

Among the fluid extracts of the United States are many where glycerine has been used as a menstruum. Its use I will state is sanctioned by the United States Pharmacopœa. As a rule it has proved quite satisfactory.

It is a well-known fact that specimens of opium are very valuable in strength. In order to obtain a uniform strength a patent has been issued to Messrs. Swan & Proctor. The process consists in removing the narcotine and other matters without removing very much meconate of morphia, unless the latter exists in too large a proportion.

In the Austrian department are some medicated bongies and suppositories, the vehicle or basis of which is gelatine instead of cacao butter. These bongies are made for the treatment of the nose in nasal catarrh as well as that of the ear and other parts of the body. They are made of different sizes and shapes and medicated with varying proportions of various substances.

Sheets of medicated gelatine are also to be seen in the same exhibit. These sheets are intended for external applications to ulcers, wounds, etc.

In the English department there are among the gelatine preparations a blistering gelatine in sheets. Various medicines are also continued with gelatine for internal administration. The sheets of gelatine for internal administration are marked off like a very small checker-board and each square is supposed to be saturated with a known proportion of medicine.

J. P. KINGSLEY.

MEDICAL SOCIETY OF SOUTH CAROLINA.

CHARLESTON, September 13th, 1878.

MESSRS. EDITORS:—In accordance with instructions from the Medical Society of South Carolina, the foregoing resolutions are forwarded to you with the request that they may be inserted in the next number of your valuable journal. Similar copies have been furnished to other prominent medical journals of the South and West. I am, very respectfully, your obt. servt.,

W. H. BAILEY, M. D.,
Secretary Medical Society, S. C.

At the regular monthly meeting of the Medical Society of South Carolina, held at Charleston, Sept. 2, 1878, the following resolutions, offered by Dr. R. A. Kinloch, were adopted and ordered to be published:

Resolved, That we witness with surprise and mortification the attempt on the part of the citizens of many sections of our country to institute a futile and oppressive system of *land quarantine* against yellow fever.

2d. That this system, originating as we believe, with a panic-stricken people, and supported by the teachings of theorists, is inconsistent with the most generally received views as to the origin and propagation of the disease in question, and opposed to the humanity of a civilized age.

3d. That we respectfully urge upon the profession, throughout the length and breadth of our land, the necessity of opposing this false and inhuman doctrine by every means in their power, even, if necessary, by an earnest appeal for legislative enactments on the subject.

4th. That we respectfully but urgently advise our fellow citizens of those localities where the invasion of the disease may seem imminent, to expend all their efforts rather in the removal of those causes, which, in accordance with the well established facts of modern science, are *known to be potent in localizing epidemic disease*.

5th. That we extend our most heartfelt sympathies to our fellow citizens who are now feeling the dire effects of the illegal and inhuman enactments referred to, and pledge ourselves to do what we can in our own State, to aid in their present deliverance and to provide for their future security.

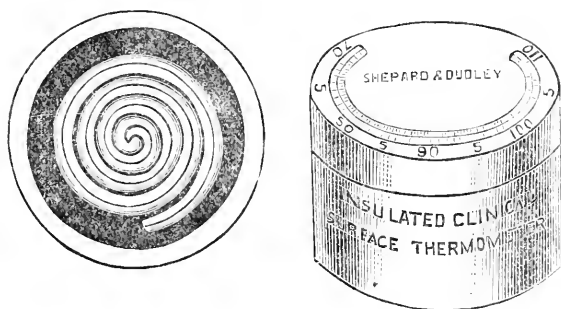
A true copy:

W. H. BAILEY, M. D.,
Sec. Med. Soc. S. C.

New Instruments.

A SURFACE THERMOMETER.

[FROM A. M. LESLIE & CO.]



A Thermometer for ascertaining the temperature of the surface of the body.

A NEW CLINICAL FEVER THERMOMETER WITH INDESTRUCTIBLE INDEX.



The cut here described shows a self-registering Clinical Thermometer which possesses all the requirements long needed by the Medical profession. The contraction of the bore of this Thermometer is so extremely minute as to obviate the necessity for any air speck whatever, and then no possible destruction of the Index can take place as an Index is formed at every observation by this peculiar contraction, itself cutting off the entire column above it from the bulb portion below it, and thus we may if we choose, (no necessity exists for so doing) shake the entire column (Index included) into the Bulb, and every time we

warm the Bulb an Index is formed by the contraction itself. It is well-known that the means by which the index piece is formed in all Clinical Thermometers is by an air speck introduced in the column, which separates a portion of the mercury, leaving the said portion to act as it does, that is to say, it remains fixed at its attained point until violently shaken down for a new observation; that the various improvements have had for their object simply the preservation of the detached piece of Index, whether by the contraction of the Bore at a place near the Bulb, or by a contraction and slight enlargement combined (Cassell's patent) or by means of a twisted stem. The Thermometer we here present seems to us to entirely meet the object required without being subject to the liabilities of all the preceding forms, and we therefore feel that they need not only be known to be preferred to any of those now in use. Some physicians doubtless have noticed in finely contracted Stem Fever Thermometers a liability to leave not only the index piece when applied to a patient, but also the column itself, which has propelled the index piece to its place; in other words, that not only does the index piece not retreat, but the entire column in some instances remains above the contraction, until finally made to retreat by the usual swinging motion required for all self-registering Clinical Thermometers. The cause of this is a peculiarity in the contraction itself, which frequently occurs in the process of contracting, and it is as difficult to produce, as it is to prevent its occasional occurrence. It has frequently been a subject of complaint as a supposed defective state of the instrument, while in reality no defect whatever existed; it was actually a double security for the safety of the index, instead of the single protection afforded by the contraction.

Editorial.

THE INCREASED CIRCULATION AND SIZE OF THE JOURNAL.

Within the nine months that have elapsed since we have been connected with the *ST. LOUIS MEDICAL AND SURGICAL JOURNAL*, its circulation has increased four hundred per cent., making it in point of circulation the first Journal published in the West. Although the capacity of *THE JOURNAL* was increased by 24 pages in assuming control of it, yet accumulations of important and interesting matter deserving notice, necessitates a still further increase. Happily the unprecedented success already achieved and the still growing popularity, enables us to respond to this want by adding 32 more pages, making it a Journal of 112 pages, and the largest one published in the country, for the price.

While we refer with conscious pride to the success that has crowned our arduous labors, yet we are far from being unmindful of the fact that this has been greatly owing to the liberality of the profession and to our very able contributors who have made *THE JOURNAL*, not only worthy of support, but a necessity to progressive physicians of the West and Southwest. We also point with pride, not only to the number of our advertisers, but to their standing as merchants and business men, all furnishing exactly what they agree to do. To them is *THE JOURNAL* greatly indebted for its success.

In furnishing a Journal of 112 pages to the profession for \$3 per year, we show that we are consulting the general interests of the profession, and hope to receive from them their continued support.

REPORT OF PROGRESS IN THE SPECIAL DEPARTMENTS OF MEDICINE.

With the increased capacity of *THE JOURNAL*, we are enabled to add Reports of the Special Departments of Medicine. In the furtherance of this purpose we have secured, after earnest solicitation, the hearty co-operation of the following well-known physicians, who will report progress in the branches to

which they are especially devoted. Their reputation is an ample guarantee for the satisfactory performance of their duty :

Practice of Medicine, by J. M. SCOTT, M. D.

Surgery (for January), by H. H. MUDD, M. D.

Therapeutics, by J. S. B. ALLEYNE, M. D.

Obstetrics, by WALTER COLES, M. D.

Gynecology, by W. L. BARRETT, M. D.

Ophthalmology, by JOHN GREEN, M. D.

Diseases of the Respiratory Organs, by WM. PORTER, M. D.

Diseases of the Nervous System, by C. W. STEVENS, M. D.,
and C. H. HUGHES, M. D.

Diseases of Children, by W. E. FISCHER, M. D.

Venereal Diseases, by THOS. KENNARD, M. D.

Dental Medicine, by HOMER JUDD, M. D., D. D. S., WM. H.
EAMES, D. D. S., and A. H. FULLER, M. D., D. D. S.

Collateral Branches, by HIRAM CHRISTOPHER, M. D.

THE JOURNAL receives over one hundred exchanges each month, from all parts of the world. The reporters in each of these department will have access to these exchanges, as well as to the books and monographs sent for review. Each month THE JOURNAL will contain reviews in two or more departments, compiled from these books and exchanges, and we will thus give our readers, in condensed and convenient form for perusal or reference, all the valuable recent literature on medicine and the collateral sciences.

THE JOURNAL solicits contributions on practical and scientific subjects, but, as far as possible, the communications will be short and concise.

The design is to make this Journal a volume containing all the important and interesting information that can be gleaned from *every source*, and to make it meet, as perfectly as possible, the varied wants of the general and special practitioner.

WE would call attention to the announcement of the Indiana, Illinois and Kentucky Tri-State Medical Society that meets next month in our sister State.

We have had the pleasure of meeting with this large and rapidly growing learned Association on several occasions. In

our opinion its proceedings will compare favorably with the proceedings of our National Association.

We learn that they will occupy a part of their time in the discussion of yellow fever, embracing a condensed history of the present epidemic, its etiology and pathology, and its prevention and treatment. It is expected that Dr. Choppin, of New Orleans, will be present, to give the members his views on this all absorbing subject.

In Memoriam.

RESOLUTIONS OF RESPECT BY THE ST. LOUIS MEDICAL SOCIETY.

The St. Louis Medical Society met at their rooms in special session on Tuesday noon, September 17th, 1878, there being present Drs. Hodgen, Hughes, Rumbold, Wm. Porter, Lutz, J. M. Scott, Mudd, McDowell, F. G. Porter, McPheeters, Moses, Whitehill, Johnston, Montgomery, Gill, Dean, Stevens, Laidley and Bernays, to take action and adopt resolutions in regard to the death of their fellow member, Dr. Wm. S. EDGAR. The meeting was called to order by the President, Dr. Barret, who stated the object of their meeting. Dr. Lutz was nominated to act as Secretary of the meeting. Dr. Rumbold made a motion that a committee of three be appointed to draft resolutions of respect and a memorial. This being seconded the president named Drs. Thos. F. Rumbold, Wm. Porter, and John T. Hodgen, who retired to draft the resolutions. During their retirement several of the members, among whom were Drs. Stevens, Hughes, Gill, from Jerseyville, Ill., Johnston and Porter made some remarks, all of whom spoke in high terms of the deceased, and the great loss the profession sustained by his death. The committee reported resolutions which were adopted, and they were ordered to be spread upon the records of the Society. It was voted that all the members attend the funeral in a body, which took place at 1:30 p. m. The following is a draft of the resolutions:

In presenting resolutions touching the death of Dr. Wm. S. Edgar, your committee is conscious that no formal eulogy can express the full sense of the Society. More eloquent than words is the presence of those who knew his worth, in the place

where we have so often met him. His life was an open book in which was catalogued a long array of virtues and characteristics that made him respected and honored. The pleasant, affable gentleman will greet us no more; the kind doctor has closed his office, but his works follow him.

We respectfully offer that,

WHEREAS, One who has long been our friend and earnest fellow worker has thus suddenly ended a career of usefulness and full of fruition, and,

WHEREAS, We who have known him both as a man and a physician, can testify to his sterling qualities as evidenced by a spotless reputation; therefore, have we

Resolved, That in Dr. Edgar's death we mourn the loss of a good and true man, well endowed by nature, and eminently fitted by educational attainments for the honorable discharge of the duties of life.

Resolved, That his unwavering devotion to his cherished calling, and his efforts in the cause of progressive medicine, even when laboring under a heavy physical burden, be remembered by us as an incentive to renewed diligence in the profession which he adorned.

Resolved, That we extend our sympathy to the members of his family; that we tender them a copy of the records of this meeting, and that the same be inscribed on a memorial page in our book of archives.

THOS. F. RUMBOLD,
WM. PORTER,
JNO. T. HODGEN.

Items and News.

INDIANA, ILLINOIS AND KENTUCKY TRI-STATE MEDICAL SOCIETY. The Fourth Annual Meeting of this Society will be held in the city of Springfield, Ill., Nov. 13, 14 and 15, 1878, commencing at 11 A. M. Extract from the plan organization: "All members of local, county, district and State medical societies, auxiliary to the American Medical Association, may become members on payment of fees and a vote of the Society."

B. M. GRIFFITH, M. D., G. W. BURTON, M. D.,
Ch'm. Com. Arrangements, Sec'y., Mitchell, Ind.
Springfield, Ill.

THE ILLINOIS MEDICAL RECORDER.—Published and edited by R. E. BEACH, M. D., of Vandalia, Ill. We are pleased to place

on our exchange list this young but well-gotten-up Journal. Its contents evinces talent on the part of its contributors and good judgment on the part of its energetic and learned Editor.

THE MISSOURI DENTAL COLLEGE.—This well and favorably known Institution commences its thirteenth course of lectures on Monday, October 7th, and no doubt will, as it deserves, be well attended.

The stand taken by this school that a thorough dental education requires a knowledge of general medicine seems to be gaining ground rapidly, and the advantages offered students who attend lectures in this Institution should make it one of the most popular in this country.

We see from the announcement that Dr. Ward Hall and Dr. A. H. Fuller have been added to the Faculty, and that Dr. H. H. Mudd has been elected Dean of the Institution. We wish it success.

THE MISSOURI DENTAL JOURNAL.—In a recent number of this dental journal, we notice that it appears under a new management. Dr. C. W. Spalding assumes control of it; in January next he will become its proprietor, also.

He proposes that the *Journal* shall be cosmopolitan in the fullest sense of the term, as applied to dentistry, admitting alike all shades of opinion upon scientific and educational subjects, as well as those that relate to different modes of the practice of dentistry.

The August number contains sixty-two pages, which makes it the largest dental journal published in the world. It contains the transactions of the Americal Dental Association, which held its eighteenth annual session in Niagara Falls, August 6th. At this meeting, our fellow-citizen, Dr. H. J. McKellops, was elected President.

MESSRS. WM. WOOD & Co. announce that in January, 1879, they will begin the publication of Medical Books by the most distinguished modern and standard authors, in monthly volumes of from 200 to 300 pages and upwards, handsomely and strongly bound, at the merely nominal price of one dollar each.

Estimating from the regular prices of the books so far selected for publication in 1879, subscribers to this Library will obtain about fifty dollars' worth of medical books for twelve dollars.

These books will be printed on handsome cream-laid paper, with broad-faced long primer type. Wood engravings and plates will be freely used whenever required.

With the type and size of page adopted, it will frequently be possible to reproduce in one of these monthly volumes, an ordinary book of 400 to 500 pages, and costing from \$4.00 to \$6.00.

These books will be sold by subscription only at twelve dol-

lars a year, and must be complete for a year. The volumes of this Library will not be sold separately.

TREATMENT OF PSORIASIS.—Prof. Thiry employed jaborandi in the treatment of two cases of inveterate psoriasis in young persons. In one case of general psoriasis, the result was very favorable, in the other, psoriasis guttata, the cure was not complete. The first case was cured in eight weeks. He gave the jaborandi in the form of infusion, in doses of one to two drams daily.

PSORIASIS.—Wurzburg, of Berlin, holds the opinion that psoriasis is never acquired except in those in whom the tendency is congenital, and whose skin is irritated from various mechanical, chemical and thermic causes. In those that have the tendency, the psoriasis always appears in some part of the skin that is irritated, as the buttocks in riders; in shoemakers, on inside of the left knee, and in the gluteal region in tailors.—Quoted in *Schmidt's Jahrbucher*.

PSORIASIS VULGARIS.—Dr. E. Poor declares that psoriasis vulgaris is a constitutional affection and is the manifestation in the skin of malarial fever. He calls it "malarial psoriasis," and treats it with quinine, arsenic, carbolic acid, etc., internally. In 68 per cent of the cases the parents suffered from ague, and 31 per cent from lichenous eruptions. In most of the cases examined (327) he found enlargement of the spleen.—[*Prager Vierteljahrsscher*.

ERYTHEMA NODOSUM (EUME).—Among 18 patients examined suffering from *e. nodosum*, 17 were women and one was a male; their ages varied from 16 to 27 years, except one, who was 54. In 16 cases the eruption was distinctly accompanied by fever. The prodromal fever usually lasted from two to eight days, and seems disproportionate to the local eruption. As complications we find pain and swelling in the joints, as in rheumatism ac., but endocarditis is never seen. * * * * While *e. nodosum* is harmless in healthy persons with no hereditary taint, it must always be a subject of alarm in those whose families are phthisical and who themselves are badly nourished and anæmic individuals.—[*Dresdener jahr. f. Nat. Med.*, 1877.

JABORANDI.—Dr. O. Kahler recommends jaborandi in cases of diabetes, where the digestion is in good condition. It rapidly reduces the amount of urine. In acute bronchitis and chronic dry catarrh he has infectious diseases. He advises its use in mumps, rheumatic affections, neuralgia, nephritis, uræmia, etc., and in chronic metallic poisoning. Kahler uses jaborandi in the shape of infusion, and says its use is contra indicated by a weak heart.—[*Canada Med. and Surg. Journal*.

Books and Pamphlets Received.

Guy's Hospital Medical School, 1878-79. [From Dr. J. P. Kingsley.]

Ninth Annual Announcement of the Woman's Hospital Medical College. Session of 1878-79. Chicago, 1878.

Thirteenth Annual Announcement of the Medical College, of Evansville, Ind. Session of 1878-79. Evansville, 1878.

Transactions of the South Carolina Medical Association. Twenty-Eighth Annual Session, held in Greenville, S. C., April 9th and 10th, 1878.

Transactions of the Twenty-Fifth Annual Meeting of the Medical Society of the State of North Carolina, held at Goldsborough, May 17th, 1878.

Sub-Sulphate of Iron as an Antiseptic in the Surgery of the Pelvis. By H. P. C. WILSON, M. D., Baltimore, Md. [Reprint from Volume II, Gynecological Transactions. 1878.]

A Few Remarks on Medical Hydrology and Mineral Waters, including the "Bedford Alum and Iron Springs of Virginia. By WM. ALEX. GREENE, M. D., Macon, Ga. [Reprint from the *Cincinnati Medical News*.]

Eight Cases of Intra Laryngeal Growths Removed Through the Natural Passages. By J. A. H. HARTMAN, M. D., Baltimore, Md. (Read before the Baltimore Medical and Surgical Society, April 18th, 1878.) [Reprint from *Virginia Medical Monthly*, June, 1878.]

Upon the Treatment of Strumous Disease by what may be called the Solitara Method. By HORATIO R. STORER, M. D., Newport, R. I., President of the Gynecological Society of Boston. [Reprinted from *The Boston Medical and Surgical Journal*, June 27, 1878.]

Report of Operations on One Hundred and Thirty (130) Cases of Strabismus—(Cross Eyes.) By A. W. CALHOUN, M. D., Professor of Diseases of the Eye and Ear in the Atlanta Medical College. [Reprint from the Transactions of the Medical Association of Georgia.]

Remarks on Naso-Pharyngeal Catarrh. By M. F. COOMES, M. D., Demonstrator of Anatomy and Clinical Lecturer on Diseases of Ear, Nose and Throat in Hospital College of Medicine, Louisville, Ky.; Junior Surgeon to the Louisville Ear and Eye Infirmary; Surgeon to Eye and Ear Department of Louisville City Hospital, etc. [From the *American Bi-Weekly*, June 8, 1878.]

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by 2, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—AUG., 1878

Day of Month	Minimum.	Maximum.	Day of Month	Minimum	Maximum
1	77.5	96.0	18	74.0	93.5
2	77.0	87.0	19	79.0	96.0
3	72.0	89.0	20	76.5	81.5
4	68.0	89.0	21	76.0	90.0
5	68.5	89.5	22	71.5	88.0
6	71.0	93.0	23	71.0	88.5
7	73.0	90.5	24	76.0	97.0
8	75.0	95.5	25	71.5	86.0
9	75.0	91.0	26	62.0	82.0
10	71.5	80.0	27	62.0	86.5
11	67.5	84.0	28	73.0	91.0
12	66.5	84.0	29	63.0	82.0
13	66.0	81.5	30	67.0	83.0
14	69.0	86.5	31	68.5	77.0
15	70.0	85.0			
16	69.0	86.5	Means	72.9	88.0
17	72.5	89.0	Monthly Mean	80.4	

Quantity of rain, 5.26 inches. ELEVATION.—Quantity of rain in July, 3.92 in.

MORTALITY REPORT.—CITY OF ST. LOUIS.

FROM JUNE 28, 1878, TO AUG. 30, 1878, INCLUSIVE.

Small-Pox	1	Cholera Infantum	45	Hydrocephalus and	Apoplexy	8
Measles	1	Infantile Want of		Tubercular Men-	Cyanosis and At-	
Syphilis, Cong'nal	1	Breast Milk, etc.	56	ingitis	electasis	3
Scarlatina	1	Alcoholism	4	Meningitis and En-	Premature and Pre-	31
Pyæmia		Rheumatism and		cephalitis	ternatural Birth	
Erysipelas		Gout	1	Direct Effect of So-	Surgical Operations	5
Diphtheria	13	Cancer	7	lar Heat	Deaths by Suicide	31
Membranous Croup	6	Phthisis Pulmon.	55	All Diseases of the	Deaths by Accident	31
Whooping Cough	9	Bronchitis	11	Brain and Ner-		
Typhus Fever		Pleuritis		vous System	Total Deaths from	
Typhoid Fever	7	Septicæmia	5	Cirrhosis of Liver	all Causes	706
Cerebro-spinal Fe.	2	Pneumonia	16	and Hepatitis	Total Zymotic Dis-	
Remittent, Inter-		Heart Diseases	18	Enteritis, Gastro-	eases	250
mittent, Typho-		Other Diseases of		Enteritis, Peri-	Total Constitution-	
Malarial, Con-		Respir'y Organs	20	tonitis, and Gas-	al Diseases	109
gestive and Sim-		Enterocolitis	11	tritis	Total Local Dis-	
ple Continued		Malaria—Tabes		Bright's Disease	eases	277
Fevers	50	Mesenterica and		and Nephritis	3 Total Develop'al	
Puerperal Disor's	4	Scrofula	37	Other Diseases of	Diseases	34
Diarrhœal	26	Convulsions	48	Urinary Organs	3 Deaths by Viol'ce	36

CHAS. W. FRANCIS, Health Commissioner.

COMPARATIVE MORTALITY RATES.

CITIES.	Estimated Pop- ulation, July, 1878.	Total Mortality for five weeks, ending Aug. 31, 1878.	Annual Death Rate per 1000 for the five weeks.
New York	1,063,171	2,787	26.51
Philadelphia	576,118	1,572	18.65
Brooklyn	549,438	1,245	23.67
St. Louis	500,000*	706	14.65
Chicago	460,000	921	20.82
Boston	375,476	871	22.52

*Estimated population, May 1, 1877, 501,489.

Trommer's Extract of Malt.

The rapidly increasing demand for our IMPROVED EXTRACT OF MALT, during the four years that it has been manufactured and offered to the medical profession in America, justifies the belief that in its production here we are meeting a generally felt want.

Long experience in manufacturing Malt Extract has enabled us to completely overcome the many difficulties attending its manufacture in large quantity; and we positively assure the profession that our Extract of Malt is not only perfectly pure and reliable, but that it will keep for years, in any climate, without fermenting or molding, and that its flavor actually improves by age. Our Extract is guaranteed to equal, in every respect, the best German make, while, by avoiding the expenses of importation, it is afforded at less than half the price of the foreign article.

The Malt from which it is made, is obtained by carefully malting the very best quality of selected Toronto Canada Barley. The Extract is prepared by an improved process, which prevents injury to its properties or flavor by excess of heat. **It represents the soluble constituents of Malt and Hops**, viz: Malt Sugar, Dextrine, Diastase, Resin and Bitter of Hops, Phosphates of Lime and Magnesia, and Alkaline Salts.

Attention is invited to the following analysis of this Extract, as given by S. H. Douglas, Professor of Chemistry, University of Michigan, Ann Arbor.

TROMMER EXTRACT OF MALT CO.—I enclose herewith my analysis of your Extract of Malt:

Malt Sugar, 46.1; Dextrine, Hop-bitter, Extractive Matter, 23.6; Albuminous Matter (Diastase), 2.469; Ash—Phosphates, 1.712; Alkalies, .377; Water, 25.7 Total, 99.958.

In comparing the above analysis with that of the Extract of Malt of the German Pharmacopœia, as given by Hager, that has been so generally received by the profession, I find it to substantially agree with that article.

Yours truly, **SILAS H. DOUGLAS,**
Prof. of Analytical and Applied Chemistry.

This invaluable preparation is highly recommended by the medical profession, as a most effective therapeutic agent, for the restoration of delicate and exhausted constitutions. It is very nutritious, being rich in both muscle and fat producing materials.

The very large proportion of Diastase renders it most effective in those forms of disease originating in imperfect digestion of the starchy elements of food.

A single dose of the Improved Trommer's Extract of Malt, contains a larger quantity of the active properties of Malt, than a pint of the best ale or porter; and not having undergone fermentation, is absolutely free from alcohol and carbonic acid.

The dose of adults is from a dessert to a tablespoonful three times daily. It is best taken after meals, pure, or mixed with a glass of milk, or in water, wine, or any kind of spirituous liquor. Each bottle contains 1 1-2 lbs of the Extract.


Our preparations of Malt are for sale by druggists generally throughout the United States and Canadas, at the following prices:

EXTRACT OF MALT, With Hops (Plain),	\$1.00
“ “ “ “ <i>Pyrophosphate of Iron (Ferrated)</i>	1.00
“ “ “ “ <i>Cod Liver Oil</i>	1.00
“ “ “ “ <i>Cod Liver Oil and Iodide of Iron</i>	1.00
“ “ “ “ <i>Cod Liver Oil and Phosphorus</i>	1.00
“ “ “ “ <i>Hypophosphites</i>	1.50
“ “ “ “ <i>Iodides</i>	1.50
“ “ “ “ <i>Alteratives</i>	1.50
“ “ “ “ <i>Citrate of Iron and Quinia</i>	1.50
“ “ “ “ <i>Pepsin</i>	1.50

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THE BEST IN THE MARKET.

PARKE, DAVIS & CO.'S

IMPROVED

EMPTY CAPSULES.

Our Capsules are manufactured by means of improved apparatus, producing the most accurate and unvarying results. The gelatine employed is of the finest quality, which, in our hands, undergoes a certain process, increasing its transparency and elasticity. Through these improvements in apparatus and material, we are enabled to produce capsules which are uniformly accurate, transparent, elastic and permanent, in which properties they are *excelled by none sold in the United States or Europe.*

These little articles will be found of great value and convenience in the hands of the physician who studies to remove the objectionable properties of the medicines which he deems it necessary to employ.

Many drugs, among which we may note *roots, gums, emetics, capsicum, etc.*, which—either from the more immediate effect to be produced or from some special action to be desired—the physician proposes to administer in the *crude or powdered* state, in preference to any form of preparation, are practically debarred from use in certain cases on account of their properties (appearance, odor, taste), and the difficulty experienced in swallowing them. It is frequently advisable to conceal from the patient the nature or identity of the drug, because of some idiosyncrasy, or of his imagination with regard to its peculiar effects on his system.

To be able to easily disguise these features of a remedy at the bedside of a patient, at a time and place when he cannot employ the assistance of a pharmacist, is a great desideratum to the practitioner.

Our Capsules will fully supply this want; a few trials will demonstrate all their advantages, among which we may enumerate the following:

Convenience.—A box (100 capsules) can be carried in the pocket without inconvenience, ready for use as desired. They may be filled with the medicine in a moment, thoroughly disguising its appearance, odor and taste, and are easily swallowed, thus gaining, if we may use the phrase, a foothold in the stomach for the drug, which would have been quickly rejected by the patient in its undisguised state.

Solubility.—We have endeavored to so prepare our gelatine that it will quickly dissolve under the combined action of the *warmth and moisture* of the stomach, requiring but little digestive action, and as a result, *our capsules can be employed in dyspepsia and other forms of irritable or torpid stomach*, when this property is essential.

Therapeutical Effect.—The gelatine having become dissolved, the remedy is brought into contact with the surface of the stomach *under the most favorable circumstances*, and, if the case will permit, will soon be assimilated, and the desired results achieved.

Emetics are exhibited in capsules to great advantage, and quick returns may be confidently expected. In this respect capsules are in contrast to pills, which, from their form and constituents, gradually dissolve in the stomach, producing the effects desired from narcotics, tonics, etc., while they are not dissolved rapidly enough for the use to which powerful emetics are devoted.

Administration.—Capsules, can, of course, be applied to the administration of any class of medicines, either simple or in combination; yet they are especially designed for facilitating the act of swallowing such articles as *powdered roots and gums* (which, from their insoluble or glutinous nature, are liable to linger in the mouth too long), or for disguising the taste of *quinine, morphine, capsicum, oils, fluids and solid extracts, etc.*

Our Capsules are put up in neat sliding paper boxes, containing 100 each, for which we charge fifty cents each. We will mail a box to any address on receipt of the price and three cents postage.

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DETROIT, MICH.

opinion is that she died from shock, to which of course, the previous hemorrhage was one of the predisposing causes.

Whether the operation itself might not have hastened the death of the patient, and whether, if I had postponed the version, my patient might not have been saved, is a question which has caused me much anxiety.

I was very despondent on the subject until I looked up the authorities and found the particular method which I followed in the case was justifiable. But it often occurs to us in our practice to feel unduly triumphant over our successes, and to be equally despondent in our failures. In this very patient I had formerly pursued a precisely similar course; the conditions were wholly similar, with this difference, perhaps, that in the last instance the woman may have lost a greater amount of blood than before, but of this I am not certain, either way. I do not think the patient was more prostrated in this last attack than she was in the previous one. This shows how often our triumph may be converted into a very different feeling, when we have several cases of closely similar nature, and that the *same* treatment pursued under the same circumstances will sometimes prove successful and sometimes a failure.

Some years ago, Dr. Shaw sent for me to see a woman who had had an enormous loss of blood. I tore up the attachments of the placenta wherever I could reach them, and from that moment until the time of delivery, at 6 o'clock the next evening, the woman did not lose another drop of blood. In that particular case, after I had broken up the attachments of the placenta the woman recovered pretty completely from the effects of the hemorrhage, and I allowed the child to be born by the natural efforts, so that the treatment was different from that which I have since instituted. In these two cases, I pursued the older method, to which I had a natural leaning from my training. As Dr. Meigs used to say, the very words "placenta prævia," to his mind were significant of version; he considers all other expedients inferior to this. On looking into authorities upon this subject I find that some are adverse to my course, and others are in favor of it. I find that Playfair, one of our most recent authorities, is very strenuous in his declarations, that while version is perhaps one of the most valuable expedients in these cases, nevertheless, it should not be performed while the woman is in a state of shock.

DR. SCOTT:—When I first saw the patient she was in a condition of great prostration, her lips pale and bloodless, and her whole appearance indicating that she might die at any moment. They told me she had lost half a bucket full of blood. On examination I found the os very partially dilated; the head of the child high up, almost out of reach. It seemed to me that nothing could save the patient but the prevention of further loss of blood. I therefore applied a tampon very carefully, directed

the midwife to see that it remained in place, and ordered small quantities of brandy every little while. I then went home, and returned after a half an hour. Twenty minutes afterward Dr. Bauduy arrived. Her condition now was much improved. When I first saw her she was pulseless, but now her appearance was so much better that Dr. Bauduy and myself, after a short consultation, agreed that it would be advisable to deliver her. Before proceeding to do so, however, we gave her brandy very freely. Dr. Bauduy delivered her in a very short time. I then grasped the uterus between my hands, passing one hand inside and applying the other upon it externally, and it contracted well and thoroughly. The patient was very much exhausted, but there was still considerable pulse; she was not nearly so much exhausted as when I first saw her. We raised the foot of the bed and told the midwife to remain with her. Upon being sent for the second time the patient was dead.

In another case, although the woman was in a terrible condition when I first saw her, by proper stimulation with brandy she was soon in a better condition. After half an hour Dr. Hodgson arrived and although the pulse was in no better condition, he turned and delivered the child right through the opening of the placenta, and the woman made a good recovery. In this case the head was so high up that, had without some uterine action, it could not have become engaged in the superior strait. Both children died.

DR. BAUDUY:—In explanation, I wish to say to my friend Dr. Scott that I do not maintain that the tampon should never be used in placenta prævia; but simply, that we should not rely upon the tampon alone. That was an aphorism of Dr. Meigs'. I fully agree with Dr. Scott, that the tampon is very valuable in certain stages of these cases.

There is just one more consideration in connection with this matter that I would like to allude to, viz: the terrible character of such cases. A friend and preceptor of mine, in Philadelphia, detailed to me once, the horrors of one of his cases of placenta prævia, and declared that after such an experience, he always stood in the greatest dread of anything of the kind.

DR. MONTGOMERY:—I think Simpson's treatment, in the great majority of cases, is the right one. But may it not have been better if Dr. Bauduy had postponed operating for some little time? I do not affirm that it would have been, but I simply ask the question. The Doctor tells us that the patient was in an extremely prostrated condition; to add to this the shock of version may perhaps have been inadvisable.

In these cases, an injection of perchloride of iron, and a little ergot, internally, if the stomach will retain it, or if not, hypodermically, is, I think, good practice. I have had two or three cases of this kind. In one of them, when I arrived, the woman was so pros-

trated that I could not think of attempting to deliver her. I used injections, tamponed the vagina well, gave her a little ergot beef-tea, and egg-nog, for some six or eight hours before I attempted to operate, and then used the same procedure that Dr. Bauduy followed; the patient had a good recovery, though a slow one. Ergot will stop almost any hemorrhage I ever saw. Carbonate of ammonia will also prevent the blood flow.

DR. BAUDUY:—We used ergot afterwards.

DR. S. G. MOSES:—I rise to endorse what Dr. Bauduy has said. It has been my fortune in a tolerably long life's experience, to meet with four cases of complete placenta prævia; one out of the four patients died. There are two points in the treatment of placenta prævia which should be taken into consideration: one is, to save the life of the mother; the other, to attempt to save the life of the child; we should be guided in our treatment of placenta prævia by these considerations.

In my first case, which I saw when a very young man, in 1836, the patient was taken with hemorrhage at the seventh month; after making an examination I sent for a local physician, who had had a considerable experience; the child was living, but died a few hours after its birth.

In the second case that came under my observation, I lost the child but saved the mother. In the third case the child died, and the mother lived. In the fourth case I lost both mother and child.

I do not think that every case of placenta prævia should be treated exactly in the same way. If the child is living, we should certainly hesitate about detaching the whole periphery of the placenta. If the os were dilated, and I could discover a portion of placental margin which was partially detached, I should endeavor to pass my hand between that portion of the placenta and the uterus, and turn and deliver. We do this in the first place, because, when the hand is occupying the mouth of the womb, not a drop of blood can escape, and we have a possible chance of saving the patient's life. If we find a patient who has lost large quantities of blood, as in the cases detailed by Drs. Bauduy and Scott, where no time is to be lost but the hemorrhage has been arrested, I should not immediately deliver, but would wait a little while before doing so. At the time these gentlemen saw their patient, there was no hemorrhage; in their place I should have waited a little while, I think, to have seen whether or not the patient rallied enough for delivery to be attempted. Where delivery becomes a necessity, as from a sudden rush of blood, I certainly should deliver immediately. I had a case some years ago, in which the child would have been saved had I had my forceps with me. It was a breech presentation; the child came down rapidly, but unfortunately the head was arrested. The child was living when the body was withdrawn.

but I could not deliver the head without forceps, and while waiting to get one, the child suffocated. In the case detailed by Drs. Bandy and Scott, undoubtedly it was just as well to detach the whole periphery, as not; because the child was undoubtedly dead.

There is a point which I think is important, which is that it is not exactly the amount of blood lost that destroys the patient, but the rapidity of the loss; a sudden gush of blood kills the patient much more frequently, than the loss of a greater amount of blood slowly flowing away. Most patients rally sooner from the shock if the amount of blood lost has not been enormous, if we give them stimulants. I do not desire to criticize the case detailed; I may have acted exactly in the same way; but considering the question afterwards, it seems to me that perhaps the hemorrhage having been arrested, it would have been wise to wait a little while to allow the powers of nature to rally.

JUNE 22ND, 1878

New Elastic Pessary.

DR. HUNT:—I have here a pessary for sustaining the uterus in anteversion with or without flexion. It is made of a spring-wire, in shape somewhat like a double Hodge pessary, open at the upper or posterior end, so that when the lower arch rests against the symphysis pubis, the heel rests up in the posterior *cul-de-sac* of the vagina and the weight is supported by the posterior vaginal surface.

It is a spring, and this, I think, is one of its peculiar merits, for in virtue of its elastic flexibility, it can be more readily introduced, and sizes that can ride higher may be more easily inserted than if the instrument were solid. I have heard a member of this Society condemn elastic pessaries, but I think it possible that they may be of advantage in certain circumstances.

The instrument I exhibit, is not quite as elastic as perhaps would be the best for a first application, because the uterus in its displaced condition, is sometimes tied down by adhesions, and until these are stretched, will remain very nearly unchanged in position, and it is not so safe to stretch these adhesions suddenly; it is only by making continued pressure that they become ultimately relaxed or stretched. Another advantage of elasticity in pessaries, was suggested to me about a year ago, with considerable force. I was called hurriedly to see a lady who was wearing a Hodge pessary; I found her in a condition of shock almost amounting to collapse. While adjusting some window curtains, she fell from a table on which she was standing, her buttocks striking the floor with great force. She was in intense pain, which I relieved with an anodyne; some time after that I detected a pelvic inflammation, and she suffered for two or three

weeks with a very violent pelvic cellulitis, which I attribute to injury done by the unyielding pessary that she was wearing.

In using a pessary like the one I here present it would be necessary to begin with one of considerable elasticity and feeble spring power and which would not ride very high; and when such one is tolerated, and the uterus gradually regains its position, another pessary of the same kind, so shaped as to ride still higher, should be introduced.

Aborted Ovum, and Fetal Monstrosity.

DR. A. C. BERNAYS:—I have two specimens here, which might be of some interest to the Society, both of them the result of abortion.

One of the specimens is an ovum which did not contain any traces of an embryo, unless certain little excrescences are to be considered either a part of the umbilical cord or of the embryo. The age is between the second and third month of gestation; there is no evidence of the formation of a placenta unless, perhaps, at one extremity, where a small nodulation exists, which might be properly taken for the insertion of the umbilical cord. The specimen is entire, and nearly fresh.

The other specimen is also the result of a miscarriage. It is a specimen of fetal monstrosity, the so-called *syren*. Both legs are grown together, and the feet are spread apart like a fish's tail. It is so designated from its fancied resemblance to the syrens who charmed Ulysses by their songs.

We know of reported cases, when nearly up to the full term of utero gestation, the uterus is affirmed to have contained nothing but watery fluid. Such cases have been considered rather mythical or ill observed; but I know that in the ovum I here present an embryo could not have escaped notice, because I had the entire sac before me. Possibly, there had been an embryo which was absent at an early period, the membranes continuing to grow for some time afterward.

DR. FORD:—I am very sure that in the last supposition Dr. Bernays has suggested what really occurred in the ovum he presents. It often happens that the embryo is absent in early ova, having died and simply deliquesced in the amniotic fluid. We find in the specimen, marked evidence of disease capable of having determined the death of the embryo within a few weeks after conception. In such cases the embryo almost always disappears, nothing remaining but a shreddy remnant of the funis. The presence or absence of the embryo in early abortions would therefore seem to depend upon the length of time the ovum sojourned in the uterus after the death of the embryo, and before expulsion.

In these cases, nothing is detached directly from the uterine wall, as the decidua vera is not capable of separation, but the sac, which I have seen several times expelled unbroken, consists

of the decidua reflexa and fetal portion of the placental attachment and a shreddy layer of decidua serotina, though this is not certainly separated. An ill formed nodular mass usually indicates the site of the placental attachment.

In the specimen before us, I find that ecchymotic patches are distributed over almost the entire surface of the sac, which show that the decidua reflexa is nourished from the *uterine* vascular system being a reflexion of the mucosa of the uterus itself. The chorionic layer is provided with vessels of fetal origin, derived from the allantois. This structure soon after its formation, quickly spreads over the entire concavity of the ovum, and its vessels everywhere insinuate themselves in loops into the villi of the chorion. In early utero-gestation, therefore, a blood supply directly from the fetus reaches every part of the inner wall of the ovular sac. Soon, however, the allantois undergoes changes of development looking towards the formation of the placenta at the base of the ovum, where the chorionic villi become more and more developed, the serotinal tissue growing toward and around them and encapsulating them, while at the same time the vessels of the serotinal layer become dilated to form the maternal system of placental blood-supply. The ecchymotic patches we see in this specimen are abundant on the inner surface of the sac, but must have been derived from a maternal source, in my opinion, as the embryo was destroyed at too early a period for its circulation to have been in any way connected with these extravasations of blood.

Tumor of the Thoracic Wall.

DR. PREWITT:—The case I present, I take to be one of congenital or spontaneous hernia of the lung. It will be seen that there is a tumor upon the left side of the chest, in the anterior portion of the ninth intercostal space. It is soft, elastic, easily reduced, and again protrudes upon coughing or full expiration. The man states that it has been there from his birth or early childhood. It lacks the crepitus which is usually found with hernia of the lung, and the respiratory murmur over it is not increased. It seems to me most probable that it is a hernia of the lung. I will be pleased if the members of the Society will examine the case and give us their opinion.

A MEMBER:—Dr. Prewitt's case reminds me of one that occurred in my practice some time since. A man entered my office looking very pale and called my attention to a tumor of the epigastric region that had occurred just a few minutes before, in an attempt to lift a very heavy weight. It occurred to me that it might be ventral hernia, and placing him in position, I succeeded in reducing it after a good deal of manipulation. I have seen one or two cases of the epigastric hernia, but I cannot recollect ever having seen a case of ventral hernia. The her-

niated mass would doubtless have become strangulated had it been allowed to remain in its abnormal position.

DR. STEVENS:—I wish to mention in this connection, a remarkable case that occurred many years ago, attracting a good deal of attention at the time—that of Holden, a police officer. He received a stab between the eighth and ninth ribs of the left side with a small knife, about an inch in width, and a hernia about the size of a hen's egg ensued at the spot. A respiratory murmur could be distinctly heard, at a point inferior to the tumor. Much difference of opinion was expressed as to whether it was a hernia of the bowel through the diaphragm out between the ribs, or a hernia of the lung. Time passed, and the man recovered entirely, suffering nothing, apparently, from his injury. A year or two afterward, he died of some disease unconnected with the injury. At a post mortem, which I conducted myself, in the presence of Dr. Ellsworth and others, we found the tumor to be a hernia of the bowel. The splenic flexure of the colon and the diaphragm on that side could not be found at first. The opening was so large that the lower or convex border of the stomach had turned upwards and passed into the left side of the chest. The splenic flexure of the colon we found in the cavity of the chest on the margin of the diaphragm. The lung was so greatly compressed as to be almost impermeable; the right lung, moreover, had invaded the left side of the thorax. All the thoracic organs were displaced, and nearly all those of the abdominal cavity. Some who saw the case had supposed it to be hernia of the lung, while it thus proved to be one of the colon. The knife had cut a small opening through the diaphragm—this had become gradually dilated in course of time to such an extent, as to allow the various organs in contact with the diaphragm, above and below to be very greatly displaced.

DR. PREWITT:—Traumatic hernia of the lung is not so rare, but congenital and spontaneous hernias are extremely rare. In the case I present it is altogether improbable that the tumor should be hernia of the bowel making its way first through the diaphragm and then through the intercostal space; besides there is no history of injury in the case.

DR. A. C. BERNAYS:—I think, Mr. President, that the tumor offers us many characters that would authorize us to regard it as a fatty growth.

DR. P. G. ROBINSON:—I am inclined to believe that the tumor is not a hernia of the lung; it is dull on percussion, and there is no respiratory murmur to be heard in it, nor in its immediate neighborhood, while I can detect a fine crackling, which is, I think, a friction sound, due to some local roughening of the pleura. I am inclined to agree with Dr. Bernays as to the char-

acter of the tumor, which I take to be a fatty growth, which is driven backward and forward between the ribs by the motions of respiration, which frequent movement has caused some thickening of the pleura at that point, thus accounting for the slight frictional sound we hear.

DR. PREWITT: I will only say, upon that point, that when the case was presented to me, I considered the possibility of its being a lipoma. But the tumor seemed to me to lack the doughy feel of a lipoma; it was too elastic, too easily reduced, and too readily protruded. Lipomata are also very rare in childhood. I am not so confident of my diagnosis, however, as to be unwilling to accept any other that can be shown to be based upon more satisfactory data.

DR. P. G. ROBINSON:—Another reason for thinking this tumor to be of lipomatous character is the fact that no marked widening of the intercostal space can be made out; I cannot conceive that a hernia of the lung should have existed between the ribs for so many years, without a widening of the interspace.

DR. MAUGHS made some remarks, and Dr. Newman then read the following paper:

Dr. Newman's Remarks on Placenta Prævia.

MR. PRESIDENT:—Placenta prævia, which was under discussion at our last meeting, is a subject of the deepest interest to the accoucheur, not because it is a condition often met with—fortunately it is so rare that many practitioners have never met with a case during a lifetime—but when met with, the sudden and imminent peril to which the mother and her child are exposed, is well calculated to strike terror into the hearts of anxious friends, and to impress with awe the medical attendant upon whom so grave a responsibility is suddenly precipitated, and he is a fortunate man who, when called to confront an emergency so alarming, can possess himself of the coolness and discretion necessary to the successful management of such a case.

But I have not thought of entering upon the consideration of placenta prævia this evening, for I am anxious to have the subject discussed by Drs. Maughs, Boisligniere and others, who may have had a much larger experience than the rest of us, in such cases. I will therefore refer to but a single point, to which allusion was made during the discussion at our last meeting.

Those of us who heard the case which was so ingeniously detailed by Dr. Bauduy, on last Saturday evening, can but admire the coolness and promptitude which characterized the Doctor's action on that occasion, while we regret that his well meant efforts were not crowned with success. But I have no adverse criticism to make of the Doctor's management of the

case, for it is often the best that can be done for both mother and child, and is sanctioned by high authority as well as by a favorable result of a similar case in the hands of the Doctor two or three years ago, and with the very same woman.

It is true that when several plans of treatment are suggested, and, after selecting one which, upon trial, fails, it is quite natural that we should regret that we had not tried some other. And I apprehend that in this way unfriendly criticisms have sometimes been made. But I think the Doctor has no cause for regret, even in this direction, for if I am not badly mistaken, the fate of the woman was sealed, before she was delivered. An examination into the circumstances connected with the case antecedent to delivery, will, I think, confirm this view. The woman was at full term. Uterine contractions had partially detached the placenta, which had given rise to an enormous loss of blood, so that she was pale, pulseless and apparently on the very confines of death. If, at this time, she had died, we might have concluded, with Dr. Maughs, that death resulted from exhaustion or shock; but she did not then die, but rallied and became rational, and there was no further bleeding, no doubt because the cervical portion of the placenta, or perhaps the whole of it, had been detached by the tampon which had been opportunely used. As reaction had taken place, the Doctor delivered by version, during which, and *subsequently*, there was absolutely no recurrence of hemorrhage, and as ergot had been very properly administered, the womb readily contracted, yet in the course of an hour, or less, the woman died. Now the significant inquiry arises, what was the cause of death? It has been suggested that she died of shock consequent upon too speedy an emptying of the uterus, but opposed to this view are the facts that delivery was not followed by a return of hemorrhage, as we have already seen, and that the womb became well contracted, and so remained, while the woman's general condition was such that the Doctor considered it safe to leave her. Fischer, a German, who has written a monograph on shock, defines it to be a reflex paralysis, the blood remaining in the veins and capillaries, the muscular system becoming powerless (a condition inconsistent with the contracted state of the womb).

Copeland says shock is a sudden depression of the vital powers.

In an admirable article by Dr. Hogden on the nature and treatment of shock, which was published some years ago, shock is said to be a condition where all the capabilities and sensibilities are so impaired as to make the continuance of life barely possible. The idea of shock here inculcated, is, to my mind, inconsistent with the circumstances connected with the death of the woman.

It appears to me that the most plausible cause of death was heart clot. The previous condition of the patient was certainly

most favorable for the formation of thrombi in the veins, which were filled with stagnated blood. There was also feebleness or suspension of the heart's action, and a relative increase of fibrin in the blood (hyperinosis) consequent upon hemorrhage. Under such circumstances, what is more likely than that thrombi should form in the small vessels, which, when reaction occurred, should be dislodged, and float along in the form of emboli to the right auricle, and there become entangled in the muscoli pectinati, receiving fresh accretions, until at length the heart's action becomes so embarrassed as suddenly to stop from over distension. (See Moxon, *London Lancet* for April, 1878.) I cannot therefore concur with Dr. Mangis, that in this case death was the result of shock, unless a sudden arrest of the heart's action from any and all causes is synonymous with shock.

DR. BALDREY.—After mature reflection upon this subject of placenta previa, and after a careful examination of its literature, I have arrived at the deliberate conclusion that my method of delivery in the case of placenta previa detailed at the last meeting of the Society was faulty, and in opposition to the maxims of good practice. I am now prepared to show, at the same time expressing my most heartfelt regret at being obliged by my conviction to condemn the measures employed, as I thought at the time, for the welfare of my patient, that had I pursued a different course of action, the result might not have been what it was. I have detailed three cases of placenta previa as occurring in my practice, with one death to the mother.

The first case was one I saw some years ago with Dr. Shaw, of this city. Having partially detached the placenta, the hemorrhage ceasing, the case was left to the efforts of nature, trusting that spontaneous delivery would occur. Some delay from weakness of the pains and the exhausted condition of the patient determined me to effect delivery with the forceps when the os was fully dilated. This course having been pursued, the mother recovered with few untoward symptoms.

The Society may remember that I mentioned the occurrence of placenta previa in the same patient whose case I detailed at our last meeting; this was my second case. On that occasion I found the woman cold, almost pulseless from loss of blood, the hemorrhage having been sudden and abundant. She had had several hemorrhages prior to this time, (about the sixth month) and her labor had commenced with a hemorrhage so abundant that her condition was most alarming. In this instance I turned, and rapidly delivered, the os being dilatable, and the mother made an excellent recovery, although the child was sacrificed, as it was also in my first case. Its death, however, may not have been occasioned by the version, but by the maternal loss of blood.

My third case was of the same woman, again affected with placenta previa. This time there had been no previous loss of blood, but the very day labor set in, a slight hemorrhage oc-

curred about nine o'clock in the morning. Previously to my calling at twelve o'clock, she had another terrific hemorrhage, and Dr. Scott was sent for; he found her cold, pulseless, and apparently moribund, and regarded her as almost *in articulo mortis*.

According to Playfair, cases where the hemorrhage supervenes at the commencement of labor are most critical; in my judgment they are more likely to be attended by profuse loss of blood, and if this is sudden they are very likely to be fatal.

After reading his article very carefully, I find that Dr. Hodge is by no means explicit in regard to the different methods of treatment, seeming to lean rather towards the plan of Prof. Wigand, of Hamburg, which is, to tampon the vagina thoroughly, thus effecting dilatation and preventing hemorrhage, and then to leave the patient for awhile undisturbed; after awhile, when the pains increase, the tampon is to be gradually pulled out, so that if the hemorrhage has not ceased the membranes may be punctured; the author, however, is not very plain in his recommendations.

Meigs is very earnest in recommending version; he is an unconditional versionist. He says that, to him, the very words "placenta prævia" are synonymous with version, and that these cases are never to be left until we have emptied the uterus.

Hodge speaks of separation of the placenta, but does not strongly recommend it, nor does he sanction the method emphatically enough to induce the reader to rely upon it.

Thomas particularly recommends, in the treatment of these cases, that women should never be allowed to reach full term, but that premature labor should be induced after the seventh month. This advice of Thomas I find extending throughout the current literature of the day.

Playfair states that in a celebrated discussion in London, six celebrated metropolitan professors of midwifery agreed as to the unadvisability of allowing pregnancy to progress when the existence of placenta prævia had been distinctly ascertained; the reasons were obvious and are unanswerable.

Dr. Elliott, of New York, in a particular method which he pursues, seems to incline decidedly towards Barnes' method, although in the same connection he prefers version, and thinks that this operation may obviate the shock to the mother, provided all other circumstances are favorable.

Bedford, of New York, seems to think that the safest method is to separate the placenta almost entirely, certainly partially, and then leave the case to nature, provided the mother be not in too great danger.

I find that what has been most clearly and precisely written upon this subject has been written by Dr. Barnes. We are all acquainted with his method and with its successes, and throughout the literature of the subject we may perceive a decided lean-

ing towards his practice. This writer recommends that the membranes should always be punctured, especially in cases of partial placenta presentation and the os dilated thoroughly with his caoutchouc bags, so that we may be enabled to reach the placental attachments; this dilatation controls the hemorrhage by pressure. The os having been dilated, if dangerous hemorrhage continues, we should proceed to break up the attachments of the placenta around what Dr. Barnes terms the "orificial zone"; the action of the bags is thus two-fold. This procedure is really a modification of Simpson's method.

Mendows expresses no opinion of his own in this matter, but states that he is guided to a great extent by the statistics of Dr. Clay, of Manchester, who claims that by the process of entirely detaching the placenta with the finger, the mortality to the mother is but one in forty-four, and to the child, one in five—wonderfully successful results if the cases have been fairly reported. In nineteen cases out of twenty, the hemorrhage ceased immediately upon the detachment. These results are very remarkable, if true, but I think the practice is not one to be always followed, because in many of these cases when we are first called to the bedside, the child is living, and by this (Simpson's) method must be sacrificed, while by Barnes' method this need not necessarily happen.

Playfair, one of our most recent authorities in obstetrics, very decidedly opposes indiscriminate version during shock, claiming that the records prove it to be a most fatal operation to the mother unless she has been previously recuperated. He claims, rather authoritatively, that, unless the woman is in a good condition, we should resort to other methods of arresting the hemorrhage, especially that recommended by Barnes.

Smellie, who lived over a century ago, was quite as successful in his treatment of placenta previa as many of the moderns; his preference was for version, but in some cases he postponed the operation until after recuperation when the patient was very greatly prostrated by shock.

Ramsbotham most positively condemns the performance of version during shock. In very serious, definite and positive language, he says, that if it be accepted as a maxim in midwifery that a woman is never to be allowed to die undelivered, it should be equally accepted as a maxim, that no practitioner should attempt to perform version during shock which results from great and rapid loss of blood; that it is unjustifiable under these circumstances to do so, and that the practice consequently should be abolished in midwifery.

Dr. Murphy, of London, has written one of the clearest and most acceptable articles which has ever appeared on this subject. He claims in language even more emphatic than Ramsbotham's, that it is almost an evidence of great ignorance on the part of a practitioner to attempt to perform version when the pa-

tient is in a state of shock, or even greatly debilitated, and refers to a case of Dr. Robert Lee, of London, when the patient having lost an immense quantity of blood, and being almost cold and pulseless, in order to save the patient's life, as he thought, Dr. Lee proposed to the husband to perform version. The woman positively refused to be operated upon, and recovered without interference, notwithstanding the fact that the hemorrhage was continuous and the pulse almost extinct when Dr. Lee made the proposal. Dr. Murphy affirms that the entire records of midwifery which he had carefully consulted, demonstrate that, as a rule, version should never be performed when the patient is in a condition of shock.

Cazeaux practices separation of the placenta, and in cases which allow more time, he tampons the vagina, and subsequently turns and delivers rapidly.

Leishmann says that the proper operation in these cases is version. He thinks that, with a few distinguished exceptions, version is practiced by all modern authorities.

Carl Schroeder claims that version is an operation of selection, provided the woman be not in a state of shock.

We thus find that there is no small amount of contradiction among authors upon this subject, but I believe that no member of this Society can carefully and impartially read Dr. Murphy's arguments without concluding that my practice in the case I reported last evening was bad, at least, in my having performed version before my patient had fully recovered from the effects of shock.

What, therefore, are we to do under such circumstances? I think it is clearly shown from the general sentiment of the authorities quoted, that we should henceforth resort to premature delivery after dilation of the os-uteri by means of Barnes' dilators before the completion of the full term of gestation, whenever the symptoms indicate the existence of a placenta prævia.

As regards hemorrhage, there are different ways of arresting it, as we all know. Meigs condemns the use of the tampon on the ground that it shuts the door against diagnostic observation. The indiscriminate puncturing of the membranes, which have been so strenuously urged by Barnes, does not seem to have received the approval of the practitioners who have written upon the subject. But dilatation of the os by Barnes' dilators does seem to be a favorite procedure, as I have already stated. Simpson's method, which attracted so much attention in years past, has been almost entirely eschewed since Barnes introduced his modification of it, a method which succeeds, as some writers state, in nineteen cases out of twenty, in arresting the hemorrhage. As far as my own experience of three cases goes, I can state positively, that as soon as I broke up the attachment of the placenta the hemorrhage ceased absolutely. In two of the cases

I made use of Simpson's method, but in the case I saw with Dr. Shaw I used Barnes' modification of Simpson's method.

In conclusion, I must say that in future I would deliver as soon as the child is viable, that is, after the seventh month. I would dilate with Barnes' rubber bags, and then leave the case to the spontaneous efforts of nature. If the hemorrhage continued after the os was dilated, I would use Simpson's method as modified by Barnes, or partial separation of the placenta. If, from the circumstances of the case, immediate delivery was advisable, when the os was dilated, and delay would be dangerous, I would dilate, as recommended by Barnes, and deliver by the bi polar method of version, thus avoiding the shock attendant upon introduction of the hand into the uterus.

JANUARY 19th, 1878.

Discussions upon Certain Specimens Presented by Dr. W. E. Fischel

DR. FISCHEL presented a tumor which had been expelled from the uterus of a pluripara, after the birth of the child and before the delivery of the placenta; the placenta was also presented. (*See plate.*)

The specimens were examined by the members and a lively discussion ensued upon their interpretation, in which Drs. Kennard, Moses, Hodgen, Ford and others took part.

DR. KENNARD maintained that the tumor was a uterine fibroid whose pedicle had been ruptured, or which had been enucleated during labor.

DR. G. A. MOSES endorsed this view.

DR. HODGEN stated that whatever the origin of the tumor, it could not be of uterine origin, as its relations to the placenta and fetal membranes made this quite clear. He called attention to a depressed surface on the placenta on which the tumor had evidently rested and to a gap in the fetal membranes opposite this surface, and also to fragments of connective tissue clinging to the tumor; in one place, moreover, to a bit of bright, serous looking tissue remaining still adherent to that face of the tumor which corresponded to the opening in the membranes. From these data he argued that the tumor was of placental origin, or an outgrowth of some of the fetal annexes.

DR. FORD likewise called attention to the rent or gap in the membranes which corresponded in size to the tumor itself, and to the fact that the depressed surface of the placental margin was much too small to accommodate the entire tumor, also maintaining that the fetal membranes had become soldered to the envelopes of the tumor in consequence of proliferative or inflammatory processes affecting the mucous membrane investing the

tumor, during the course of pregnancy. He maintained that the tumor was a sub-mucous fibroid which had grown rapidly during pregnancy, become adherent to the membranes reflected upon it and encroached upon the edge of the placenta, which had likewise grown toward the tumor, which was simply excapsulated during labor.

On motion, a committee was appointed to examine and report upon the specimens at the ensuing meeting, consisting of Drs. G. A. Moses, W. E. Fischel and T. F. Prewitt.

FEBRUARY 2nd, 1878.

A report of the committee being called for, Dr. Prewitt, on behalf of the committee, made a partial report.

A letter from Dr. Fischel to Dr. G. A. Moses, was read, as follows:

DR. G. A. MOSES.—Dear Sir: It will be impossible for me to attend the meeting of the Society to-night, and I therefore write you the result of the microscopical examination of the tumor I presented two weeks ago. There was no trace of a placental structure; therefore must exclude a placental origin. A section from the inner surface of the body of the larger lobe showed muscular bundles extensively interlaced with one another, and amongst them bands of connective tissue. The muscular fibre was unstriped, and the connective tissue loose and wavy. A section from the smaller lobe revealed much the same picture, only immensely more vascular—telangiectatic. The tumor was covered by a fibrous membrane, closely allied to it. I should, therefore, come to the conclusion that we have to do with a sub-mucous fibro-myoma. Dr. Baumgarten made a section, only hastily, "by tearing," and was convinced that it was a fibroid. Dr. Engelmann examined it last week and thinks the same. The reason I made no report last Saturday evening was because Dr. Engelmann begged to be allowed to make a more careful examination and report result to me. He not having reported, I presume he found nothing new. Trusting this to be satisfactory to the Society,

I am, &c.,

W. E. FISCHEL, M. D.

St. Louis, Feb. 2nd, 1878.

On motion of Dr. Hodgen, further time was granted for the preparation of a full report.

FEBRUARY, 9th, 1878.

DR. G. A. MOSES, Chairman of the committee to which the specimens had been referred, submitted the report of the committee, as follows:

Report on the Tumor expelled During Labor. Presented by Dr. W. E. Fischel.

The tumor was stated by Dr. Fischel to have been expelled before the placenta and after a natural, uncomplicated labor. There was no history of previous disease affecting the sexual organs. The woman had borne children previously; the last birth prior to the present occurred two years ago. The tumor with placenta were presented.

APPEARANCE OF PLACENTA.—Normal in every respect and symmetrical excepting at one point of periphery. For a space three inches in length by an inch and a half in broadest width, the fetal aspect of placenta was uncovered by amnion, was smooth.

APPEARANCE OF TUMOR.—Weight not ascertained; size about four and a half inches in greatest length, and three inches in width, and about one inch and a half in thickness. General contour resembled a double ovoid attached or united lengthwise, much as though two kidneys, one slightly the larger, were united on their pelvic aspects. The larger portion of the mass was more compact in structure, and firmer than the smaller; the whole mass is firm and dense, though not as hard as fibrous tumors often are. Over a portion of the tumor, perhaps one-fourth, is attached a fragment of membrane; no other sign of capsule or envelope.

Fresh section of tumor exhibited great vascularity, this seeming greater in the less dense portion, and a peculiar arrangement of structure in vascular looking cones or pyramids, the apices pointing toward center of mass, at which side were several large blood-vessels filled with blood.

MICROSCOPICAL APPEARANCES.—Sections of external layers presented fibrous tissue arranged parallel to surface of tumor and continuous with general structure. (Stained with carmine.) Deep section from more vascular portion, exhibited fibrillae resembling non-striated muscular fibres and numerous small blood-vessels. (Hæmatoxylin.) Sections from denser portions unstained, laid side by side with sections from uterine fibroid, exhibited structure that could not be distinguished from that of the fibroid.

CAPSULE.—The fragment which appeared to be a portion of membrane, is a portion of the same structure as the first section named, and entirely unlike amnion or chorion.

The appearances indicate that the tumor is probably a fibroma of the uterus which had increased by rapid growth dur-

ing pregnancy, partially overlying the edge of the placenta, dislodged or enucleated and expelled during labor.

Motion having been made, an animated discussion followed concerning the acceptance of the report, Dr. Hodgen objecting on the ground that the committee had not made mention of a certain depressed appearance which he stated to have been exhibited by the uncovered area on the placenta, described in the report; and also because the committee had omitted to note and describe the opening or gap in the membranes which had been so particularly noticed as a curious and significant feature of the specimen by several members.

DR. HODGEN called upon Dr. Fischel to testify concerning this opening as observed in the fresh specimens.

DR. FISCHEL stated that the rent in the membranes seemed to correspond in size and location to the tumor, and further said that there was observed upon a part of the tumor a bit of membrane still attached to it which he supposed to be a portion of the amnion.

DR. MOSES asserted that the membrane in question was not a flap of amnion.

DR. ENGELMANN stated that it was undoubtedly composed of connective tissue, and, by permission of the Society, read the result of his microscopical examination, as below, in a letter from himself to Dr. W. E. Fischel:

ST. LOUIS, February 9th, 1878.

DR. W. E. FISCHEL:—I have examined the placenta you left me, and also the tumor which is said to have been expelled at the same time with the after-birth; there is no connection between the two, and the tumor is, beyond question, uterine in its origin. The placenta is healthy and well developed, 7 by 6½ inches. At one extremity of the shorter diameter is a shallow depression upon the inner or fetal surface of the placenta 1½ inches in its widest part, with its greatest length 3 inches, parallel to the placenta. This is probably the impression left upon the soft mass of the placenta by the tumor, which fits into it. Both surfaces were in contact, but in no way connected. The membranes, amnion and chorion, are very much torn, but quite normal in structure. The funis is unusually long, it must have been 32 inches; the fetal extremity quite thick and very much twisted. The tumor itself is lobular, 4 inches in length by 3 in breadth in its broadest part, and about 1½ inches in thickness; shrunken after being preserved in alcohol. At the apex of one of the walnut-sized lobes, the red, solid tissue of the tumor expands into a thin membrane, at present very limited in extent, perhaps larger before handling. A capsule is nowhere visible. The microscopical examinations of teased

specimens, as well as stained sections from various parts of the tumor, shows it to be a fibro myoma, of comparatively recent growth—tetangelastic in parts, more especially in the center, where, microscopically, large blood vessels with a diameter of one-half to one line, are visible. The strands of connective tissue still show the cells distinct, and the cells of the non-striated muscular fibre are very well marked. I should speak of the tumor as “fibro myoma,” and, in parts, a “fibro myoma tetangelastic.” The membrane which springs from one of the lobes, and, on account of its transparency, may mislead the observer into a comparison with the equally delicate amnion, is fibrous and vascular, bearing no resemblance to the more cellular amnion, with its large cells mostly in fatty degeneration. A capsule cannot be found upon any portion of the tumor, but its superficial fibres are arranged in a layer parallel to the surface. In conclusion I would say that I can trace no point of attachment between the mass and the fetal membranes; that the tumor is a fibro myoma of comparatively rapid growth, with its origin in the uterine wall. Such structures are not known to develop in the placenta, and would find no matrix in its tissues.

Respectfully yours,

GEO. J. ENGELMANN.

Dr. FORD illustrated his views by a diagram on the black-board, and said: Having had, I deem, adequate opportunity for examination of the specimens, on one occasion through the politeness of the committee, I take pleasure in expressing my belief that it has, thus far, substantially reported the principal facts in question, and that it has correctly interpreted the character of the tumor and its relation to the placenta before parturition, so far as the most important points are concerned. The committee, however, has failed to notice in its report, the existence in the fetal membranes, of a gap or hole through them, whose boundaries could be traced as continuous with the concentric border of the surface of the placenta, on which the tumor plainly lay. Several members of the Society, including myself and the committee, to my knowledge, noticed the gap in the membranes. I regard it as important to endeavor to understand what has become of the membranes originally filling it, and to determine to what structures they have remained attached, and why they were not peeled off from their surface of attachment like the rest of the secundines not connected with the tumor. The gap in the membranes corresponded in size to the area of the tumor; its existence is an interesting fact, as indicative of changes in the surface to which the membranes so torn out of the main sheet of decidua, were attached; changes which are suggestive in a physiological and pathological point of view, as bearing upon the phenomena of the placental adhesion in extra-uterine pregnancy, of adhesions of the placenta and its lobules in intra-uterine pregnancy, upon the causes and mode of adhesion of the surface of growing intra-uterine fibroids to

the walls of the body of the uterus and of the cervix, which we sometimes find so extensive that a probe cannot, at first, be passed into the uterine cavity; and finally, as illustrative of the question "when and why is the uterine decidua non-deciduous?" a query which introduces us to a study of the theory of the decidua and those cardinal facts in the anatomy and physiology of the foetal structures and uterine mucosa, which constitute the groundwork of both obstetrics and gynaecology. I shall presently endeavor to explain, in accordance with views now admitted, the mechanism according to which the membranes originally filling the rent, were torn away.

The committee has described the tumor as presenting the ordinary appearance of uterine fibroids, on what they, doubtless, correctly assume to have been its parietal surface; they further state that it was bulbous, very vascular and lobulated on its presumed fetal aspect. Microscopical investigation has corroborated the views of the committee, as far as it has been reported, although the structure of the membranous flaps alluded to, does not seem to have been investigated. The general appearance of the lobulated portions under the microscope, are those of rapidly developing tissue, viz.: great vascularity, and the presence of elongated, somewhat fusiform, cells of young connective tissue. The committee has declared that, under the microscope, sections of the parietal portions of the tumor which were evidently primitive, oldest and most characteristic, could not *be distinguished* from specimens simultaneously examined, of a tumor known to be a uterine fibroid. Allowing, Mr. President, for the influence of pregnancy upon the growth of this tumor, I think it presents features which are peculiar to itself, and, although I must adhere to the views which I expressed in common with several members of this Society, concerning its nature, on the evening when it was presented, viz.: that it is essentially a rapidly growing fibromyoma, I wish to state that there are certain features in its history and anatomy which have induced me to think that the tumor is not an ordinary specimen, either of the round or pedunculated hard uterine fibroid, but falls rather into a distinct category of fibroids, well described by certain writers. Rokitsansky, when speaking generally of fibroid tumors, describes three varieties of uterine fibroids:

Class *a*, in which there is a concentric lamination of the layers of fibres, the tumor being very dense and tough, poor in blood vessels, and limited in growth.

Class *b*, with manifold decussations of the fibres. The fibrillation frequently springs from distinct centers marked by their density and whiteness. These tumors have an uneven undulating surface and may attain a very considerable bulk. This variety is liable to become œdematous and to become expanded by interstitial accumulation of fluid.

Class *c*, so far as its elements are concerned, ranks with the

teroging growths. In other respects it differs from them and offers a transition form to fibro-sarcoma. Not rarely these tumors contain excavations lined with a smooth membrane, and filled with a sero-aluminous fluid, *alveole, cysts*. They are further marked by considerable vascularity; they are often submucous, rooted in the inner layers of the substance of the uterus. Here they grow into the cavity of the organ, with a permanent longitudinal direction of their fibres, pressing forward the mucous membrane in their advance, and representing cylindrical, spindle-like, pear-shaped, bulbous tumors, lobulated at their free extremity, and traversed more especially in the uterus, by capacious blood vessel (veins).

Barnes also alludes to tumors of this kind. He speaks of the frequent occurrence of tumors which in many respects differ from the ordinary fibroids. His description closely follows that of Rokitsansky's class *c*, in fact, seem to be a reproduction of it. Barnes speaks of them as not so often encapsuled, more vascular and consequently under surgical interference more liable to inflammation and necrosis than other and denser fibroids; they are less prone also to become polypoid. Red, fleshy, loose-textured they contrast remarkably with the white, dense, subcartilaginous appearance of the common hard fibroid. The distinction was recognized, he says, by Cruveilhier, and insisted upon by Rigby. I feel confident that the tumor under discussion is a specimen of Rokitsansky's class *c*; all its characters to my mind unmistakably assign it to that category. Its comparative softness as a fibroid, its pear-like shape, its bulbous lobulated form and surface, its evident great vascularity as proved by the microscope, as well as by the naked eye determination of large veins in its interior, invest it with all the characters so plainly described by the authorities I have quoted. The presence of spindle shaped cells in the bulbous parts of the tumor, as well as an inordinate vascular development, simply point to its rapid growth, and not in my mind to anything like the semi-malignancy of true sarcomatous growths. Rokitsansky speaks of it, as I have said, as a transition form toward fibro-sarcoma. In its main character it very obviously differs from either the pedunculated or the round uterine fibroid of Klob.

In explanation of the anatomy of the specimens and of the mechanism of the expulsion of the tumor, it is important to inquire how the gap in the fetal membranes already alluded to was formed. On placing the parts in situ, very nearly half of the uterine surface of the tumor is seen to lie upon the placenta, to which it was in no way attached except through the intervention of the mucous covering, in the opinion of the committee, and also in my own. The tissue of the placenta on that portion of the surface which lay in contact with the investments of the tumor and was evidently pressed upon by the new growth, appears condensed, somewhat thinner than elsewhere, but otherwise

presented exactly the appearance of the proper placental surface in contact with the uterine parietes. A filmy layer of serotinal decidua could be demonstrated upon this surface as over the true uterine surface. There was no amnios upon this lunated surface. The tumor was placed with its long axis tangential to the placenta, and between it and the placenta there doubtless lay a prolongation of the uterine mucous membrane; this was left behind attached to the wall of the uterus after the excapsulation of the tumor.

When the specimens were placed together in what is believed to have been their relation to each other before parturition, it could be clearly made out that the tumor could not have been attached to the uterine wall by more than from thirty-five to forty per cent of its base: viz. by measurement, over a surface about three and a half inches long, by from three quarters of an inch to an inch and a quarter wide. We must therefore imagine it as a bulbous outgrowth from the uterine wall, not pedunculated nor broadly sessile, but seated on a relatively contracted base. The area represented by the surface of true uterine attachment probably corresponds with the size of the tumor before pregnancy; the remaining sixty-five to seventy per cent. of basal area would seem to represent its increase in size after conception. It will be seen therefore, that very nearly one-half of the base of the tumor overlay the placenta. Early in pregnancy, the quickened growth of the tumor, induced its development into the bulbous overhanging form; it thus became larger in all directions and advancing laterally grew towards, and was pressed upon the edge of the placenta by the intra-uterine pressure of the amniotic fluid. The mucous membrane of the uterus, as decidua, was encroached upon and developed into placental tissue not only as far as the point where it was reflected upon the tumor but still farther, on the uterine aspect of the tumor for about an inch and a half. We must consequently suppose this portion of mucous membrane to have been healthy and to have been capable of development into decidua; the proof of this we find in the existence of a serotinal lamina on the surface of the placenta underlying the tumor, no trace of amnios being visible. Thus the tumor grew towards the placenta, while this structure equally advanced to meet it, insinuating itself between the tumor and the uterine wall and forming its attachment not only up to its base but to a part of the under surface also, of the tumor-capsule. The true edge of the placenta is not therefore that which seems to be so on casual inspection, but a line which leaves the apparent edge and courses along the outskirts of the crescentic area described on which the tumor lay, being anatomically defined by the presence or remains of the amnios. The placenta is therefore a deformed one, and the placental edge bordering the crescentic area spoken of is to be regarded simply as an accidentally regular outgrowth of the

placental tissue into a reflexion of the uterine wall. This area of the placenta could hardly have been completely or properly developed, being compressed by the tumor, and in consequence of the peculiarities of the vascularization of the tumor beneath the surfaces in question, so entirely unlike that of the region of the uterus to which the placenta becomes normally adherent, was unable to form the free vascular communication which exists between the maternal and fetal surfaces. While the placenta was developed over this area, from the decidua investing a portion of the overhanging surface of the tumor, it is not to be supposed that any marked development of vessels could have occurred in the substance of the tumor itself, such as take place in the wall of the uterus. Vascular connection existed therefore almost entirely between the outgrowing placenta and the mucous membrane covering the tumor. That this connection did really exist is proved by the absence of amnios and the presence of true serotinal tissue all over the surface under consideration. But over this mucous surface, in consequence, no doubt, of a tolerably healthy condition of the mucous membrane, a true deciduous coat was formed, a coat which really separated from its subjacent mucous membrane, and became therefore truly deciduous. But this did not occur over the fetal aspect of the tumor. The fetal membranes did not peel off, but were violently evulsed from the rest of the conjoined membranes over a surface which corresponded in size to the area of the tumor in its greatest breadth. Over this surface, and throughout this area of the tumor it is plain no true decidua was formed.

I stated on the evening when these specimens were first presented, having these considerations in view, that it must be regarded as impossible for the surface of a uterine fibroid projecting to any distance into the uterine cavity to generate a decidua vera. I also stated in explanation of this assertion that the mucous membrane had undergone in the great majority of cases such profound changes of an atrophic or proliferative character, that its glandular structure was entirely destroyed, and that upon the integrity of this glandular structure and the regularity of its development after conception, the faculty acquired by the transformed mucous membrane of separating into two layers and thus throwing off a portion of its substance, and the entire placenta, strictly depends.

Klob states that as these tumors grow into the uterine cavity their original mucosa undergoes grave modifications, either, becoming atrophied, or being transformed by proliferative changes into the form of a villous vascular spongy membrane, even in the covering of larger polypi. All authors are agreed upon this point. As soon as a tumor of this kind begins to project into the uterine cavity, friction of its projecting surfaces, distention and the general irritation determine an afflux of blood and hypertrophic enlargement of the uterus, while the surface of the tumor

itself becomes inflamed, affected by catarrh, which may extend over the rest of the uterine cavity, and in further stages, by ulceration and even by gangrene. One of the most constant changes in the development of these sub-mucous growths is the disappearance by atrophy, or cystic degeneration, of the utricular glands of their mucous covering. The non-existence of the utricular glands in the tissue has not been determined in the specimen before us, for the reason no doubt that the mucous covering in question has not been brought to us, being left behind we believe in the cavity of the uterus. There is a small portion of membranous covering adherent to one of the bulbous lobulations of the tumor, probably about two square inches in area, which may be a portion of atrophied mucous membrane; the committee, however, have not reported upon this point. And it may be regarded as probable that the bulbous projections described are not transformed mucous membrane.

I wish now to say a word or two in further explanation of the influence exerted by the absence of the utricular glands, as assumed, from this area of the mucous covering of the tumor, upon the adhesion of the overlying fetal membranes to it, an adhesion presumed to have been intimate enough to cause the membranes so adherent to have been torn out from the rest, so as to leave a clear gap or hole corresponding in size to the greatest diameters of the tumor.

Our notion with regard to the origin and mode of exuviation of the decidua have undergone notable changes within the last twenty-five or thirty years.

A decidua cannot be formed from a uterine mucosa in which the glands have been destroyed or notably changed in structure by inflammatory action, or from any membrane whatsoever in which these glands are normally absent, such as the mucous membrane of the Fallopian tubes or cervical canal, or the peritoneum. Although the placenta may make its attachments to the tubal or peritoneal surface, no truly deciduous tissue is ever generated beneath it.

It was in view of considerations of this kind that I asserted that a decidua could not have been formed from the degenerated mucous covering of a fibroid projecting into the cavity of the uterus. In the case we are considering, I must assume that the formation of a decidua ceased at the edge of the tumor, on a line represented by the torn margin of the gap in the fetal membranes described, although doubtless generated from the mucous covering of the overhanging parts of the tumor up to this point. On the lobulated or true fetal surface, no decidua was formed, as I believe, in consequence of degenerative changes in the mucous membrane covering that aspect of the tumor, so that when the consolidated fetal membranes bounded by decidua reflexa were pressed by the advance of pregnancy into close contact with this surface, adhesion necessarily occurred be-

tween the decidua reflexa and this degenerated mucous membrane, just as a similar adhesion would have taken place had a truly deciduous formation been provided. When labor supervened, in consequence of the non deciduous character of the structures to which the decidua reflexa was now firmly united, the fetal membranes were necessarily torn out of the gap or hole described, which, to my mind, represented the area of the unnatural adhesion.

This degenerated mucous membrane would seem to have been rent by the force of uterine contraction and to have remained behind attached as a ragged flap to the walls of the uterus as a portion of the covering of the tumor which had thus been encapsulated from within it.

In conclusion, Mr. President, I beg leave to summarize these remarks as follows: The tumor, in my opinion, was a uterine fibroid, such as has been described by Rokitsansky, Cruveilhier and Barnes as a transition form between true myo-fibroma and fibro-sarcoma.

During pregnancy, the tumor grew rapidly towards the placenta, while the placenta encroached upon its constricted base simultaneously, and became attached to the mucous membrane covering a certain area of its overhanging mass. The tumor was in no way nourished from the true placental tissue, but by special vessels of its own derived from the uterus. It was encapsulated during labor by uterine contraction more or less simultaneously with the exuviation of the placenta.

Its mucous covering and capsule have been left behind adherent to the uterine wall, the lunate border of the placenta having been separated through the intervention of a properly developed deciduous formation, from the healthy mucous investments of the overhanging portions of the tumor, while the tumor itself was simply peeled out of its capsule.

DR. HODGEN, in response, said: The tumor is somewhat kidney-shaped, but lobulated; is three inches long, two broad and one inch thick; much of the surface has fragments of connective tissue clinging to it. One part, however, presents a bright, polished, serous-looking surface terminating in a ragged torn border, and the surface corresponds in form and size to a deficiency in the amnion and chorion that is opposite the depressed surface, in which the tumor rested. On the fetal surface of the placenta, near its border is a depressed surface three inches long by an inch and a half broad, and this surface presents the remains of connective tissue like that being a part of the tumor, and there can be no doubt that the tumor rested on the excavated surface.

In the amnion and chorion opposite the depressed surface of the placenta on which the tumor rested, is a deficiency, with torn border, corresponding to the serous surface of a part of the tumor both in form and size. Here, then, we have a tumor

having the amnion and a part of the chorion on one surface, while the other rests in part at least, on the foetal surface of the placenta, and the placenta is made up of the chorion and the mucous membrane of the uterus so related to each other that each passes through the entire thickness of the placenta; consequently we have chorion on the uterine surface of at least a considerable part of this tumor.

The child delivered at the time of the expulsion of this tumor was the third one born by the mother. At no time during the life of the mother has she had uterine hemorrhage. She has not had watery discharges from the uterus as is frequent with sub-mucous fibroids. The very occurrence of pregnancy is improbable during the presence of a sub-mucous fibroid of the uterus. Now, Mr. President, if this tumor be a uterine fibroid, and delivered as it was, after the child, and before the uterus had contracted sufficiently to expel the placenta (for Dr. Fischel tells us that it came away before the placenta) it must have had very feeble connections with the uterus, it must have been pedunculated. Its connections with the uterus must have been more feeble and more readily broken than the connections of the placenta with the uterus, and it must at the same time have been covered by mucous membrane, and this is not the case. If the tumor had been an intra-mural fibroid and expelled at the time of delivery of the child it would have followed, not preceded the placenta.

I am opposed to adopting the report of the special committee appointed to examine and report on this tumor for the reason that several very important facts have been omitted in the report just made by Dr. Moses, the chairman of that committee.

1st. The concave surface existing on the foetal surface of the placenta.

2d. The rent in and absence of tissue from the amnion corresponding to the site, size and form of the serous looking surface on the tumor is not mentioned.

3d. There is no mention of a serous-looking surface on the tumor, having a torn border corresponding in size and form to the deficiency in the membranes.

4th. The committee was appointed to report the facts observed and determined by them, and not the conditions arrived at by their speculations. I therefore move that the report be referred back to the committee for further consideration.

DR. ENGELMANN contended that the tumor could not have sprung from the amnion nor from the placenta, because there are no muscular fibres in the placenta except in blood vessels; reasoning by exclusion, therefore, the tumor must have been of uterine origin.

DR. HODGEN took exception to the statement concerning muscular fibres in the placenta, as did also Dr. A. C. Bernays, who

said that he had made very numerous examinations of placenta, and always found muscular fibres between the blood vessels. The last speaker also gave his own views respecting the nature of the specimen.

DR. ENGELMANN further stated that the tumor contained large blood vessels, and that as there are no organized blood clots of considerable size, there was no possibility of this specimen being of such a nature.

DR. G. A. MOSES, referring to Dr. Hodgen's statement concerning the infrequent coexistence of pregnancy and fibroid tumors of the uterus, referred to various authorities to prove that pregnancy could occur under such circumstances, enumerating cases in which pregnancy was repeated and the deliveries successful.

The question of the adoption of the report of the committee being again called for, the report was adopted with one or two dissenting voices, and the Society adjourned.

FEBRUARY 16th, 1878.

Referring to the discussions of the preceding evening, Dr. Hodgen said:

MR. PRESIDENT, I am prepared to-night to demonstrate the existence of fetal vessels passing into the chorion that covered the fetal surface of this tumor, and to point out the torn extremities corresponding to the margin of the fragment still remaining on the tumor, and also at least one large vessel opening by the torn end on the concave surface of the placenta in which the tumor rested, and there are fetal vessels not maternal, showing that this tumor was nourished by fetal blood.

I pass this blow-pipe attached to this syringe into the umbilical vein, and with the placenta submerged, you see the air bubble from two points at the torn border of the membranes, and from one point at the middle of the concave surface on which the tumor rested. And now that the placenta is lifted from the water we can see distinctly the torn edges of these vessels. And besides these vessels in the torn membrane we find one other vessel, making five in all, that are easily distinguished by gas-light.

DR. FORD now requested that the placenta be turned over in the dish so that its uterine aspect might lie uppermost and that the injection of air with the syringe be continued. This being done, on pressing the syringe as before, air was seen to bubble out at numerous points on the uterine surface. He affirmed that the air had escaped in this way, both over the depressed lunated area as well as on the uterine surface of the placenta, as

just demonstrated, in consequence of the rupture of the fetal tufts of the inner placental structure, for, as is well known, no extravasation of air or fluid by the orifices described, which were the torn openings of intero-utero-placental vessels of maternal origin, could possibly occur, except by such a rupture, which indeed it is almost impossible to avoid in the most careful injections of perfectly fresh placentæ, this great delicacy of the ramifications of the chorionic villi constituting the fetal tufts having proved the most formidable of all obstacles to the study of the intimate structure of the placenta. He asserted, therefore, that both on this occasion, as well as on a prior one, when Dr. Hodgen had made a similar injection of air into the same placenta, the escape of air by these orifices was simply the consequence of an intra-placental rupture of fetal vessels of the chorionic ramifications which project into the maternal sinuses coursing through the placenta.

DR. BERNAYS, at Dr. Hodgen's request, reported that he had found that Carl Schröder states that fibroid tumors have been found in the placenta.

DR. HODGEN remarked that he did not care to discuss the question whether other fibroid tumors of the placenta have been found. "I am sure," said he, "Dr. Fischel has presented one at least to this Society."

MARCH 2nd, 1878.

Referring to the discussions some evenings since, in which Dr. A. C. Bernays had stated that Schröder admitted the possibility of the occurrence of placental fibroids, Dr. Ford said that he had consulted Schröder's *Midwifery*, and found that Schröder mentions a tumor which he says was described by Löbl as a fibroid of the placenta, but the author takes care to say in the next sentence that it was very probably nothing else than a *myxoma-fibrosum*, a variety of vesicular mole.

APRIL 27th, 1878.

Dr. Hodgen presented a placenta in which hemorrhage had occurred in several places. He remarked:

There were four of these clots whose appearance now varies in accordance with the date of their extravasation. In some I find the coloring matter has entirely disappeared; in others the coloration is very marked within and is fading externally. One of these masses measured, perhaps, two inches in diameter and about half an inch in thickness in its recent state; the others were smaller. The one in which the color was most distinct in the center was, perhaps, an inch in diameter, possibly one-fourth to one-third of an inch in thickness. I do not know

to what extent organization has advanced in them, but it is quite certain that they are partly composed of organized fibrillated fibrine, though I cannot say whether this would have been finally developed into fibres. But I think it possible that it may have done so, and was much more likely to have progressed thus far in development in the tissue of the placenta than in any other part of the body on account of the vascularity of the placenta, the blood supply being abundant and the possibilities of organization therefore being correspondingly greater.

The specimen is now a week old and has been immersed in a pretty strong solution of carbolic acid; it is somewhat shrunken and macerated, and the nodulations are not as large as they were. I have taken steps to procure a microscopical examination, and may report its results at a future meeting. The placenta is large, and so was the child, which weighed, I think, about twelve pounds. The blood-tumors are very easily separated from the tissue of the placenta. I have torn the placenta open so that the tumor may be examined from the maternal surface. The thickest portions of the tumor have been cut away, but its remains are distinct enough. They are situated near the margin of the placenta, some of them directly upon the margin. The two larger masses are about an inch from the edge of the placenta; their arteries are a little nearer the edge of the placenta.

The members of the Society having inspected the specimen, Dr. Ford remarked:

The specimen is an interesting one in view of the changes which have obviously occurred in it, of a morbid character. I think the specimen gives evidence of congestion, probably of long continuance, for extravasations of blood have evidently occurred in the substance of the placenta. But the nodulations are not now as distinct as they have been, according to the Doctor's description; I see that the lobules are more numerous than they are ordinarily, and one or two of these, at least, are considerably larger than they should be normally. That blood clots formed within the placental tissue may become organized is doubted by no one; independently of the proliferative changes occurring in the tissue in which the hemorrhage takes place, the coloring matter will disappear, and a certain fibrillation of the fibrin will be effected, but the mass will never assume anything like the proper microscopical structure of what is known as a true fibroid. Robin, Jacquemier and Cazeaux have enlightened us as to the origin of many of these placental deposits in placental apoplexy and fibro-fatty degeneration. Of late I have been looking into the matter of placental growths and diseases. The subject is an interesting one, but its literature is curiously meager. I have some notes upon the subject, which I will read if the Society would like to hear them.

Dr. Ford then read a paper entitled "An Analysis of the literature of Placental Growths and Diseases," with reference to

the present discussion, showing that no case of an indisputable fibroid of the placenta is on record, and treating of other points bearing upon the questions under discussion.

DR. HODGEN:—I understand that the Doctor takes the position that the tumor lately presented, was not a fibroid of the placenta, but a fibroid of the uterus.

DR. FORD:—Yes, sir, of course; a fibroid of the uterus—a sub-mucous one, of the rapidly growing kind. Throughout the discussion I have maintained this view, and it is the only one which, in my opinion, is tenable.

Having been called upon by Dr. Hodgen for an expression of his views,

DR. FISCHEL said: I think it is a little unfortunate that I am to some extent forced into the discussion of this matter, because, when presenting the specimen (which was, in fact, given to me by another party) to the Society, I took care to state that I knew but little of such things, and hoped the Society would inform me in regard to them. The President, nevertheless, was pleased to appoint me one of the committee to examine and report upon this tumor, which was accordingly done—the report being adopted by the Society. As far as my knowledge of this tumor was concerned, it pertained only to the microscopical examination, and it did evince, as far as I knew, a fibrous structure. I thought, at the time the report was made, that it was not possible for a fibrous tumor to be developed in any organ, or in the vicinity of any organ where fibrous tissue did not pre-exist. I have since found that I was in error; that this is not so. Authorities speak of fibrous tissue being organized and developed in regions where tissue of this kind does not pre-exist. It might, perhaps, assist the discussion of the matter, if I again state, as nearly as I can remember, the appearance of the tumor and its relations to the membranes and to the placenta when I first saw it.

The tumor itself, as has so often been said, was pear-shaped and somewhat flattened. Its entire surface, excepting its posterior and inferior parts, was of a shining, smooth appearance. This posterior and inferior surface was rough and flattened, and seemed as if it had been torn away from some other structure. On the superior surface of the tumor, inclining towards the anterior, there were the remains of a membrane. This membrane, when I saw it, was about two inches long and perhaps an inch broad, extending almost over the entire breadth of the tumor. I examined the tumor as soon as it was presented to me, and found it to be exceedingly vascular. There were large vessels running through it, and these vessels were filled with blood. The tumor was first handed to me, but the placenta was preserved, and only handed to me the ensuing day. When it came

into my hands, I examined the placenta and found that there was a surface upon it corresponding to the flattened, rough part of the tumor—the tumor apparently fitting into this depression of the placenta. Then, again, on examining the fetal membranes, I found that there was a gap or opening in them which corresponded exactly to the tumor in size and shape. I found, moreover, on making a close examination of the membranous flap which remained attached to the tumor, already described, that this bit of membrane fitted in the gap of the fetal membranes, with which it seemed to have been continuous. I mean, more distinctly, that the thinner portion of the membrane attached to the tumor, seemed to fit in the lost portions of the fetal membranes.

Some time after the tumor was presented to the Society, it was examined more closely by Dr. Hodgen and myself. We considered mainly the relation of the tumor to the membranes, and of the vessels of the tumor to those of the membranes. I made notes of the results of the examination; at the time we agreed in our opinions. They are as follows:

"The tumor lay between two layers of chorion. The amnion lay over the fetal side of the tumor, and a portion of the chorion over the fetal side, and a portion over the maternal side of the tumor.

"VESSELS.—One vessel opened on the tumor side of the membrane that lay on the fetal side of the tumor; one also opened on the tumor side of the portion of chorion that was between the tumor and the uterus, about the middle of the surface; and another opened at the point where the chorion separated into two portions to receive the tumor between them. There was certainly an artery and a vein in the first and third localities named, and not certainly an artery in the other. Each artery was about one line in diameter; the veins were larger than the arteries."

I do not think the relations between the membranes and the tumor spoken of, were probably as intimate as those with the placenta itself.

DR. HODGEN:—Did Dr. Fischel find, upon injection of the fetal vessels, that those openings which he represents as existing on the torn edge of the fetal membranes, as well as others on the surface of the placental area from which the tumor was detached, were continuous with the fetal vessels, or not?

DR. FISCHEL:—Yes; the experiment was made, and I found it to be so.

DR. FORD:—I would like to inquire whether the specimens had ever been in any other condition than as presented here—either at the time they were handed to Dr. Fischel or previously to his knowledge?

DR. FISCHEL:—They were presented here just as I received them, save the changes effected by time; although, I may say, they had been considerably handled.

DR. FORD:—Did I understand the Doctor to say the tumor lay between two *layers* of the chorion?

DR. FISCHEL:—Between two layers of the chorion.

DR. FORD:—Between what two layers of the chorion? The chorion itself is not recognizable in the membranes of a mature fetus; and what is so called is firmly glued to the decidua reflexa, and cannot be divided into two layers; nor are any of the several structures which replace each other, and are successively termed chorion, ever divisible, as far as we know, into two layers. I found, upon careful and repeated examination, that it was impossible to establish any connection between the tumor and the proper placental structures or fetal membranes, save one of pure contiguity.

With regard to the vessel spoken of by Dr. Fischel, as opening upon the fetal surface of the tumor, that is just as it should be, according to the views I have maintained. The tumor was necessarily invested by its capsule of condensed tissue and by mucous membrane, either greatly atrophied or otherwise changed, originally the lining membrane of the uterus, and between the tumor itself, rapidly growing, and these investments there must have been a vascular connection. There must likewise have been some vascular continuity on the deep aspect, between the tumor and its capsule, and the uterine wall in which it lay imbedded. But the adhesion of the tumor to the fetal investments was evidently very intimate—much more so than to the wall of the uterus, so that any vessels traversing the fetal aspect of the tumor, though properly contained in the fetal membranes, and anatomically belonging to them, must have been torn across when the placenta and membranes were evulsed from the tumor, a portion of these membranes remaining behind firmly attached to the envelope of the tumor. The tearing of these vessels, by which certain patulous orifices communicating with the umbilical vein were left, so strenuously insisted on by Dr. Hodgen in support of the view that the vessels so torn had originally passed directly into the tumor and nourished it, can be very readily understood when we take into consideration the evident soldering of the fetal membranes to the metamorphosed, perhaps attenuated, mucous membranes overlying the tumor, and constituting its fragile envelope. It is to be anticipated that when a portion of the fetal membranes are torn off near the margin of the placenta, that vessels communicating with the umbilical vein will be severed. The umbilical vein is necessarily distributed beyond the edge of the placenta, over the whole interior of the chorionic sac in early pregnancy,

and even near, or at term, to some inches beyond the placental margin. It must be recollected that the umbilical vein is one of the two such veins originally distributed upon the allantois. The allantois, carrying two arteries which spring from the internal iliacs, and at first two veins, one of which becomes eventually atrophied, soon after its evolution spreads over the entire interior of the chorion, enters into intimate contact with it, and supplies its villi with arterial and venous twigs on every aspect of the ovum. Hence the vessels of the cord are, at this time, in continuity with every part of the chorion. By the ingrowing of the decidua serotina the placenta is formed, and the fetal circulation is proportionately developed within the placental area, both arteries and veins, however, continuing to carry on the circulation in the fetal membranes beyond the edge of the placenta, though yielding more and more, as pregnancy advances, and the ovum increases in size, to atrophic influences. That these vessels do exist at or near term, is proved by a specimen I presented a few nights since to the Society, in which there were numerous ecchymotic patches and discrete apoplectic nodules between the chorion and decidua reflexa, not less than three or four inches beyond the edge of the placenta, as I took pains to demonstrate.

So that it is to be expected that injections can be pushed by the umbilical vein beyond the edge of the placenta. The mere fact that injections have passed, as Dr. Hodgen found, through vessels torn across in the strips of membrane left adherent to the placenta, and forming a portion of the gap or hole in the membranes so frequently adverted to, by no means therefore signifies that such vessels were directly distributed to the tumor, but is merely an illustration of the proper anatomy of the placenta and fetal membranes.

DR. HODGEN:—I wish to ask the Doctor whether he remembers, on a former occasion, while speaking on this subject, making a drawing on the black-board illustrative of a fragment of membrane yet adherent to the surface of the tumor?

DR. FORD:—I have taken pains in these drawings (presenting two sketches) to depict what was obvious to all who examined the specimens, viz: a certain fragment of shining membrane attached to the lobulated surface of the tumor. This bit of membrane was examined by a thoroughly competent microscopist who told me he had found it not to be amniotic in nature. I have, therefore, supposed it to be a lamella of the proper capsule of the tumor, or some product of local hyperplastic action. I always maintained that the true fetal envelopes overlying the tumor had become intimately adherent to the investments of the tumor so that that portion of these envelopes corresponding to the surface of the tumor had been left behind in the uterus when the placenta and membranes generally were expelled, the pla-

centa being drawn out from beneath the overhanging base of the tumor in one direction, while the tumor was liberated through its lacerated capsule in another direction, thus making its appearance free from its original intra-uterine investments.

The vascular openings pointed out by Dr. Hodgen upon the lunated border of the placenta over or upon which the tumor lay, as well as those which he was kind enough to demonstrate at my instance, over the undisputed maternal aspect of the placenta, though such a demonstration conflicted with his own position, were all equally the ruptured mouths of maternal vessels. The openings seen on the lunated area were the mouths of maternal veins which had passed from the placental sinuses into the mucous membrane interposed between the placental tissue and the encroaching tumor.

DR. HODGEN :—I will ask Dr. Ford at what point the pipe was introduced, in my injection of the vessels?

DR. FORD .—Into the umbilical vein.

DR. HODGEN :—But surely the umbilical vein is not a maternal vessel?

DR. FORD :—The umbilical vein is not a maternal vessel, but this vein is continuous with the vessels which pass beyond the edge of the placenta, which, indeed, are its ramifications. This continuity accounts, therefore, for the escape of injected air or fluid by the ruptured openings existing on the edge of the membranous fringe which skirted the lunated area on the margin of the placenta upon which the tumor in part lay. The passage of injections from the umbilical vein by such openings I have already explained.

The fetal circulation is a closed circuit so far as the placenta and fetal appendages are concerned. No injection, therefore, by the vessels of the umbilical cord can make their appearance upon the uterine surface of the placenta without rupture of the exceedingly delicate and fragile tufts in which the umbilical arteries terminate, the fetal blood within these tufts being separated from the maternal blood of the placental sinuses by a single layer only of most delicate membrane. The passage of injections, therefore, by the vessels of the cord through the substance of the placenta, and their appearance on its maternal aspect, is positive proof that the injection has ruptured the fetal tufts and been extravasated into the proper maternal vascular system, and wherever such an injection makes its appearance we must regard the orifice through which it passes as belonging to the maternal system. Even while fresh, injection of the placenta is a most delicate and difficult affair, and this great delicacy of the inner organization and consequent facility of extravasation of injections from the vascular system of the fetus to that of the mother is perhaps the sole reason of all the difficulty

which has been experienced in the study of the anatomy of the placenta.

DR. HODGEN:—Did the Doctor regard the opening in the membrane lying over the limated area of the placenta as simply a rent or as the consequence of the removal of a piece of the membranes?

DR. FORD:—I have on several occasions stated that I regarded this opening as caused by the removal of a portion of the fetal membranes corresponding in size and shape, as the opening did, with the lobulated face of the tumor. A portion of the membranes of these dimensions was, as we may say, punched out from the midst of the fetal envelopes.

DR. HODGEN:—That portion remained on the capsule?

DR. FORD:—Yes, sir.

DR. JOHNSTON:—I would like to know whether Dr. Hodgson has come to a conclusion as to whether the specimen in question was a fibroid of the uterus or of the placenta?

DR. HODGEN:—I have always thought and have said when I have spoken of it at all that this tumor was a placental tumor and not a uterine tumor. That was the conclusion I came to.

Before I go further into this discussion I wish to ask a question or two of the members of the committee. I was very naturally dissatisfied with the report of the committee, and with the vote of the Society also. I have been trying to satisfy the Society and the committee that they were both wrong.

I want to ask Dr. Prewitt whether he fully agreed with the report at the time that report was made; he was a member of the committee.

DR. PREWITT.—I will state, Mr. President, that I do not think I saw the report after it was written out, and I was not here when the report was made, and did not know that there had been a vote taken upon it.

DR. HODGEN.—You did not sign it, then?

DR. PREWITT.—Really, I do not know exactly what that report was, for I have never seen it.

DR. HODGEN.—I am glad for Dr. Prewitt's sake that he did not know what the report was. It is only a supposition of mine; no one has ever told me so, but I am quite sure that Dr. Prewitt would not have agreed with that report; I think he would not.

I don't like to embarrass my friend any further, but did Dr. Fischel sign that report?

DR. FISCHEL.—I am in much the same predicament as Dr. Prewitt is. I had not seen the report previous to its being read; of course I did not sign it. At the time the report was

read I stated to the Society one or two things that were incorporated afterwards in the report.

DR. HODGEN.—Mr. President, I would like to ask whether that report, adopted by the Society, was a majority report.

THE PRESIDENT.—The Secretary can inform us.

THE SECRETARY.—I should judge not.

DR. HODGEN.—I wish to state, once more, my observations in regard to that tumor, with reference to the possibility of pregnancy in the presence of a fibroid of the uterus. On one occasion I was called to see a woman affected with fibroids, whose uterus was much enlarged and elongated, for the sound passed in to the depth of seven inches. Some months after this I was again called to her, and found her suffering under a uterine hemorrhage. A month or two later she went away, and six or eight months after this, I met her in the park; she was drawing a baby-carriage, with a baby in it; it was the child with which she had been pregnant when I had last seen her, and she told me the baby's name was "Fibroid." Everybody knows that women may become pregnant whilst having fibroids. Dr. Kennard, and other members of this Society, will remember a tumor presented some years ago by Dr. Montrose A. Pallen, a uterine fibroid sent by a friend from the country, to him, as a pathological specimen. Dr. ——— attended the lady here. She was pregnant, and had gone home and died, after the birth of her child. The specimen was sent here as a large fibroid tumor, with the request on the part of the physician in the country that it be returned. We all know that pregnancy may occur with the existence of fibroids in the uterus.

But I wish again to allude to the special features of the placenta under discussion. Upon its margin there was an area three and a-half inches long by one inch and a-half broad. This surface corresponded to the portion of the tumor which rested upon it, or in the sort of cavity so formed.

There was a rent in the surface of the fetal membranes as though a piece had been torn out, which, Dr. Ford thinks, was left on the capsule in the uterus (do not forget that point, if you please); this portion so torn out of the membrane was opposite the depressed surface of the placenta. Dr. Ford also recognized on the surface of the tumor a shining portion, which he asserted was merely the remains of the capsule of the tumor proper. After much trouble, now about six weeks since, I succeeded in getting a microscopical examination of a portion of the tail-like flap or appendage of membrane, which has been adverted to as adherent to the tumor, and although it had been long in alcohol, and much handled, the gentleman who examined it told me that it corresponded in structure with the amnion, and that it was of the same character as the amnion, and that although the examination had not been made at a time

when it could be determined positively, as it might have been earlier, it was, in his opinion, a bit of amnion.

On the border of this shining flap or surface, I found two arteries and two veins, one of which was very large, as large as the small sized pencils which we sometimes see in ladies' pocket-books, almost as large as the anatomist's crow quill. These vessels passed into the surface which corresponded, under the microscope, with the amnion, for a short distance, and then broke up and went into the tumor, though others passed on to the other border and disappeared on the lacerated surface.

I wish to speak very briefly of the wonderful fact that must be exhibited by any one by blowing up the umbilical vein in such a way as to make it break through the tissue of the placenta and communicate with the opening upon the lunated surface described, three inches and a half in length, and an inch and a half in breadth. Why, if the internal structure of the placenta was broken up by the injection, did not the injected air make its appearance at many points over the area in question? Why was not the whole surface filled with air bubbles? There can be no doubt that the umbilical vein is in connection with the uterus, notwithstanding all the talk on the matter. I know the Doctor did not mean to deny it, but in the multiplicity of words he did deny it. These orifices were those of vessels which terminated in the tumor; they were fetal vessels; they carried blood for the purpose of nourishing the tumor, and if the tumor was a uterine fibroid, it is impossible to understand the disposition of the vessels in reference to its nutrition. Had it been a uterine fibroid it could not have received blood vessels from the fetus. The determination of the serous character of the membranous flap which remained attached to the lobulated surface of the tumor proves positively that the tumor was not enucleated from its capsule, nor the capsule left behind in the uterus. The question as to the character of the vessels which came from the membranes attached to the placenta and terminated in the membranous shining flap adherent to the tumor, ought to be determined; and it is the duty of this Society to determine this question.

DR. FORD.—As to the connection of the umbilical vein with the uterus, I have so often spoken of the fetal vascular system as a closed circuit, *quoad* the mother, that an assertion of the utter independence of the umbilical veins and its ramifications, of the maternal circulation, is simply a rehearsal of a most common-place fact in embryological anatomy. Nor do I suppose that Dr. Hodgen ever intended to suggest or maintain a contrary view.

The vessels he has described as injectable from the cord by the umbilical vein, I have endeavored to show exist naturally, being continuations of the umbilical vein and remnants of the vascular system of the allantois, and that vascular orifices trace-

ble on the fringed ragged edge of membranes skirting the lunated area on the placenta, and other vascular orifices observable on or near the shining flap of membrane resting adherent to the tumor, by no means proves that these orifices belonged to the same vessels, or, if they did, that such vessels were the nutrient vessels of the tumor. These vessels ran, I am confident, solely in the fetal membranes proper, to whose circulation they belonged, and were anatomically situated within these membranes now glued to the capsule of the tumor and intervening atrophic or modified mucous covering of the tumor. They simply passed over the face of the tumor, while other twigs that dipped into the tumor were the result only of those proliferative changes which must have been so active in the tumor itself and its capsule, and were derived solely from the mucous covering, and were purely maternal in character.

Now with regard to the injection of air, and the appearance of air bubbles on the lunated area of the placenta, I have already said, that the air so injected could only make its appearance on the admitted uterine surface of the placenta in consequence of rupture of the fetal tufts and its extravasation into the venous sinuses belonging to the maternal circulation. When the experiment was made, before the members of this Society, but after its adjournment, the placenta being turned over in the dish with its fetal surface underneath, air bubbles escaped on almost every part of the placental surface. It had passed through the orifices which had been made by the exuviation of the placenta during delivery, through the torn inter-utero-placental vessels, by extravasation through the fetal tufts from the umbilical vein. Now upon the lunated area on which a part of the tumor lay, still covered, however, by its mucous membrane, in Dr. Hodgen's injection, air passed out, just in the same way, not at one point only, but in a half-dozen places, and, as I maintain, by a precisely similar mechanism. These orifices, then, were indisputably of the same character as those upon the convex or uterine aspect of the placenta, and both were nothing else than torn mouths of venous sinuses, or possibly arterial twigs, essentially of maternal character. It was purely a matter of extravasation of air within the tissue of the placenta.

I discussed this matter with Dr. Engelmann; he said that Dr. Hodgen had succeeded in passing air through the vessels torn across upon the margin of the fringed border skirting the gap in the membranes. I said there was nothing very remarkable in that. "But," said he "air passed out also through orifices on the lunated area itself." I asked, "Did not the air likewise pass out through orifices over the convex or uterine face of the placenta at the same time?" "Yes," said he, "all over it." This was precisely what occurred when at my request the placenta was turned over in the dish, with its uterine face uppermost and air forced in by the umbilical vein.

Dr. HODGES:—Will the Doctor please state whether that may not have been due to handling, the placenta being by this time pretty well torn all to pieces?

Dr. FORD:—This may have been so to some extent, but the air bubbles appeared all over the surface of the placenta, in many places where it was uninjured externally. I have been trying to show that its intimate structure was not only torn, but almost destroyed by the injection.

Dr. HODGES:—No, not both.

Dr. FORD:—In regard to the signification of the bit of membrane that was attached to the tumor, I have been obliged to argue that it was not of amniotic structure, on the basis of perfectly competent microscopical authority. My first impressions were that the bit of membrane was a fragment of adherent foetal membrane, and I so expressed myself very emphatically on the evening when the specimen was first presented. From my stand-point, it makes no difference whatsoever whether we regard it as amniotic or only as a fragment of capsule. The history of these rapidly-growing fleshy tumors, is, according to Klob, as I have stated before the Society, that the mucous membrane originally investing them becomes atrophied, thinned, and attachments are formed between it and the overlying decidua reflexa. Such a mucous membrane cannot separate into two layers and so originate a decidua vera, for the glandular structure upon whose metamorphoses the fissure depends, is soon obliterated by the growth of the tumor and attendant hyperplastic or even inflammatory processes. The membranes overlying such a mucous covering, will become adherent to it and must be torn out during delivery or else bring the capsule along with them.

No other vessels were present in this growth other than such as must be present in an actively growing tumor of the kind. The shape of the tumor was characteristically that of a uterine fibroid. Its lobulation on one side has been noticed by all who have examined it. On the other side, it was smoother. It was larger in one of its diameters than the other, and seems to have been moulded to the shape of the uterus, as adverted to by Barnes. The long diameter of the tumor probably coincided with the axis of the uterine cavity.

Dr. JOHNSTON:—Do you hold that it is possible or impossible for fibroid tumors to originate in the placenta?

Dr. FORD:—I maintain that the literature of the subject furnishes no instance whatever of the existence of a fibroid developed in the placenta. In one or two cases it has been maintained, as I have shown in the analysis read, but these cases were of a dubious character; and, in one of them, viz.: Röper's case, I am confident the tumor was of the same character as the one now under discussion. There has been no case recorded, as

far as I have been able to search the literature of the subject in this city, of the transformation of blood-clots or myxomatous growths, or other known affections of the placenta, into anything analogous, under the microscope, to a fibroid tumor, least of all, to a fibro-myoma of the uterus, or that variety of fibro-myoma, to which I claim that the present specimen belongs, viz.: the rapidly growing, fleshy tubercle of Rigby, Cruveilhier, Rokitansky and Barnes.

DR. BERNAYS:—I beg leave to differ from the gentleman. Two cases have been described by different authors. I believe that the tumors so described were such as the authors of the papers declared them to be, viz.: true fibroids of the placenta. There is no reason why fibroids should not be developed in the placenta.

DR. FORD:—The two cases named by Dr. Bernays were disputed cases. I have already mentioned these cases as cited by Schröder in his "Midwifery." Schröder states that one case was reported by Löbl, and described as a fibroid of the placenta. He also mentions a case reported by Clarke, who described it as a fleshy knot as large as a child's head, existing in the placenta. Clarke, however, did not describe it as a fibroid. There remains, therefore, only one case, viz.: that described by Löbl, as a fibroid of the placenta. After quoting Clarke's case and Löbl's case, in the very next sentence Schröder goes on to say that "both were, probably, nothing more than myxomata fibrosa." Löbl's case was the only one which was claimed by its reporter to be a fibroid of the placenta, and is cited by Schröder for the express purpose of negation. Now, with regard to the comparative authority of Schröder and Löbl, I should suppose everybody here would be content to rest satisfied with Schröder's opinion. We do know Schröder, and value his writings very highly. Löbl may have thought proper to describe his tumor as a fibroid because it was fibrous in character, which it probably was, but a myxoma may be fibrous without being a fibroid tumor, which is altogether a different structure. I have preferred, from this point of view, simply to declare Schröder's opinion on the subject, inasmuch as his quotation of Löbl's case was made for the purpose of negation of the very thing in dispute.

DR. HUGHES:—I should like to ask Dr. Ford whether, in the paper he read, he stated that "fibrinous growths" are not to be confounded with "fibroids?"

DR. FORD:—Fibrinous formations cannot be confounded with fibroid growths. The term "fibrinous," is applied only to formations which result from retention of blood within the uterine cavity, possibly in connection with a piece of retained placenta still adherent to the uterine wall, after delivery. These forma-

tions, moulded by the uterus, and partly decolorized, are known as "fibrinous polypi." No such thing as a fibrinous concretion is ever mentioned in connection with the placenta, existing during utero-gestation, except those formations resulting from placental apoplexy, and the consequent proliferative action and inflammation of the placental structures which inclose them.

DR. BARRETT: Chance took me to the office of the Doctor, within three or four hours after he obtained it. We examined it together, and both, at the time, were as fully convinced of its fetal origin as the nature of the inquiry permitted. The hole in the membranes opposite the attachment of the tumor to them, was not simply a rent of the membranes through which the tumor escaped, but a part of the membranes, corresponding in area to the opening, was bodily removed and left attached to the surface of the tumor. This was plainly evident upon the most careless inspection. The ragged edges of the hole left in the membranes, corresponded with similar membranous irregularities on the surface of the tumor, and shreds of membranes that fitted into the serrated border of the membranous hole, were still attached to the tumor.

If it was a sub-mucous fibroid, the external covering of the tumor opposite the hole in the membranes, must, according to my observation, have been fetal membrane, and the next covering, or that immediately beneath the external, must have been decidua; yet we are assured microscopical examination revealed no mucous membrane at that site. The fetal membranes certainly covered the tumor in the locality designated, and the absence of mucous membrane beneath it, must, under the circumstances, preclude the possibility of uterine origin.

DR. DEAN said he did not understand Dr. Hodgen to take the position that the tumor was a placental fibroid, but that it was a placental tumor; accepting the belief that it was a fibroid, maintained the entire improbability of its being placental, on the ground that such cases had not been reported.

He cited the following, translated by him from *Speigelberg's Lehrbuch der Geburtshülfe*, p. 345. After describing *myxoma-fibrosum placenta* and *sclerosis of the placenta*, Speigelberg says:

"Circumscribed tumors of the placenta have been observed (see Klob and Whittaker) which were separated from the rest of the tissue by a connective tissue capsule and thereby imposed for actual tumors. They were mostly seated on the fetal side, under the amnion, and were of a connective tissue nature, sometimes poor in cells (fibroid), sometimes rich in cells (sarcoma). They are to be considered as fibroid metamorphoses of the normal mucous tissue of the villi (*partial myxoma fibrosus*) or as a cell proliferation of the decidual processes."

At the ensuing meeting of the Society some further remarks were made, but the discussion was practically closed by mutual agreement among the disputants.

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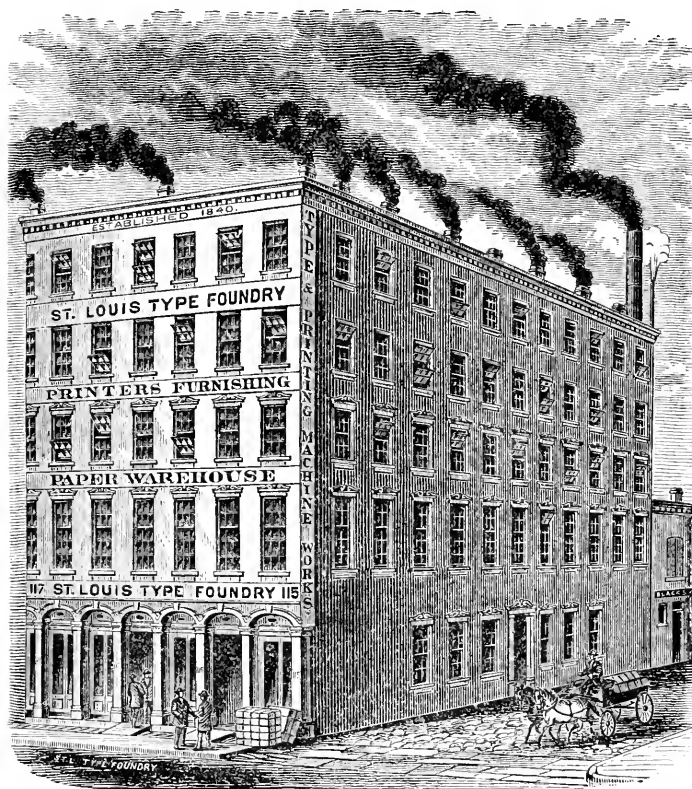
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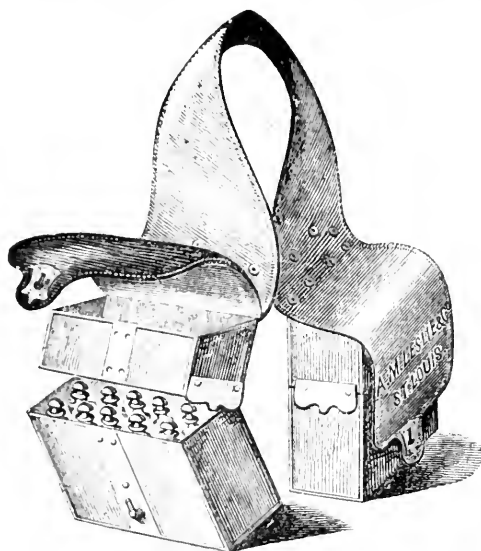
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